Dr. Beelin

The American Journal of

CLINICAL MEDICINE

Dependable Therapeutic Fact for Daily Use

OCTOBER MCMXVIII

BUY LIBERTY BONDS

THE Fourth Liberty-Bond Drive opens under conditions and auspices that hardly could have been more favorable to the Cause for which we, and the Allies, are fighting. The successes of the last month promise great things for the future. Now, more than ever before, it is up to us stay-at-homes to boost the boys abroad with every cent we can spare. ¶ LET US BUY LIBERTY BONDS TO THE LIMIT.

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Quick action obtained by ***intravenous injection*** of 20 c. c. of a 3 to 5% solution of COAGULEN CIBA.

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ELIXIR LACTOPEPTINE acts as a prompt *and* efficient **digestive aid** throughout the alimentary tract.
But as a **vehicle** it occupies a place *of* equal distinction.
For when the stomach rebels *and* will no longer tolerate **KI** or other harsh drug
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The Original Multiple Enzyme Product.

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YONKERS, N. Y.

DR. WILLIAM F. WAUGH

1848-1918

The American Journal of
CLINICAL MEDICINE
Dependable Therapeutic Fact for Daily Use

Vol. 25, No. 10 October, 1918

Doctor Waugh

IN the morning of the 5th of September, Doctor Waugh breathed his last and was released from the distress of the past months. The preceding days had been far more trying than usual and his strength evidently was ebbing fast. There was not much actual pain, except for frequent strangury that was due to a severely infected bladder and caused the writer to fear that the bladder had been involved by the malignant process. Needless to say, the writer paid frequent visits during that day and did everything he could to relieve the patient, even to the administering of sufficient doses of morphine. On the last visit of the 4th, about 7 p. m., Doctor Waugh was resting easily, his mind partly dulled by the opiate; yet, he smiled at the writer with his old genial good-humor, and wanted to know what was now going to be done to him. He declared that he felt comfortable and might go to sleep. A little after 10 o'clock, Mrs. Waugh called up over the phone, saying that she was frightened and asked the writer to come over. He found Doctor Waugh unconscious, breathing heavily and evidently approaching death. Consciousness never returned and respiration ceased quietly a few minutes after midnight.

Doctor Waugh's personality was unique in many respects. During his long association with CLINICAL MEDICINE, for a quarter of a century, it was his scholarly erudition as well as his kindly sympathetic nature that gave to the editorial articles their characteristic attractiveness and distinguished them from those of most other journals. Doctor Waugh's writings formed not so much a contrast as a complement to the more aggressive articles written

by the editor-in-chief and by other editorial writers. He never left out of sight the human phase of things. It was he especially who always insisted upon it that the physician must not treat diseases but the patients who are afflicted with certain anomalies of function or with certain disease processes.

His style of writing was peculiarly his own. He had an unusually happy facility of expressing himself to the point and clearly as well as forcibly, but yet tempering his scholastic and didactic remarks with intimate personal touches that fixed the subject of his discourse in the minds of his readers. Widely read, having an almost inexhaustible fund of personal observations and experiences, Doctor Waugh always was able to enlighten the tedium of purely scientific discussions and he, more than anybody else with whom the writer is acquainted, managed to "get under your skin" and to drive his lesson home, withal in such a kindly and an unassuming manner that, while conviction enforced the lesson, it was not pounded in but administered pleasingly and acceptably.

The writer has met few men who surpassed or even approached Doctor Waugh in true and real depth of character. While he can not be said to have been an orthodox christian, in the accepted sense of the word, he yet was deeply religious. It is but a few weeks ago, on one occasion when the writer was ministering to Doctor Waugh that the latter remarked: "Doctor, do you know there is nothing that is so comforting as an absolute and unquestioning faith; faith that, whatever happens, it will be well; faith that it all will be for the best." In a constant and intimate association of many months between the writer and Doctor Waugh, religious subjects rarely had been touched upon, although almost everything under the sun has been discussed more or less. Doctor Waugh called himself an agnostic. He did not claim to know except that the universe was governed beneficently and that the human soul was greater and of more importance than the body—that it was immortal. Where he has gone, what he now sees, we do not know. We do know, however, that his influence will remain with us, being exerted toward making us gentler, kindlier, more sympathetic and, yet, studious and ambitious physicians, ever striving for the greater good of our patients.

Help the Government and yourself at the same time—buy Liberty Bonds.

THE LOAFER

This war is, certainly, waking us up. One of the remarkable manifestations of the war-spirit is shown by the Chicago police in their attempt to round up loafers. Even in an enormous city like this, one cannot but marvel in observing how the movie-theaters, bar-rooms, billiard-rooms, hotel-lobbies, and other resorts are crowded with ablebodied men that apparently have nothing to do. The government now demands that these men go to work, if over thirty-one years of age, while there is room in the army for the younger ones. We venture the prediction that one result of this movement will be a vast diminution in holdups, burglaries, and similar criminalities. We do not now recall any instance of a similar action, excepting that when Napoleon swept up the lazzaroni of Italian cities and molded them into effective brigades.

There is work now for every man that can stand or sit up, and there are big wages to pay for it. It no longer is necessary for the middle-aged or elderly man to complain of being forced out of employment. He is needed and can make more money from his work than he ever did in his life. However, resting, such as comes when an elderly man is asked to give way to a younger or more energetic specimen, quickly and easily becomes a habit.

It is to be hoped that every state in the Union will follow a similar course. In this way, the gaps in the labor market caused by the demand for soldiers will be quickly and effectively filled.

AMERICANS AND THE HONORS —AND SPOILS—OF WAR*

We note in the daily press that the British government has proffered distinguished honors to several of our leading army- and navy officers. This is as it should be and

*This is one of the last editorials written by Doctor Waugh, and we print it without alterations. For, while showing in some degree the strain of the merciless disease that was sapping his strength, nevertheless it contains some of his old humor and a touch of his old happy vein of expression. It will be difficult, in many ways, to replace him.—Ed.

the courtesy is taken as such by the American people at large, as well as by the recipients. When an American leader has performed some difficult duty in a way which certainly would be rewarded by a knighthood or other distinguishing mark of merit if done by a British officer, it is a graceful act in His Majesty's Government to do like honor to the American.

Nevertheless, our officers are in the right in declining to accept these honors. In the first place, it is against our laws, unless the reception is authorized by special act of congress. Secondly, it is un-American, for, as a country, we have set ourselves distinctly against the formation of a titled or privileged class among our citizens. Thirdly, we are engaged in a war for the distinctly stated purpose of making democracy a possibility. And, fourthly, it detracts, in a certain sense, from the merit of the performance, that there should be any possibility of personal reward or distinction beyond the consciousness of duty well performed. We are those who believe that a man should do right because it is right, and not for any hope of heaven or fear of hell. If a man goes "over the top" with the thought that he may be enabled thereby to write his name as Sir Hiram Suggs or Hiram Suggs, K. C. B., instead of plain Hi Suggs, it degrades the performance into something approaching the commercial.

This brings to mind an incident occurring during this writer's service in the United States Navy. Our ship was lying in the harbor of Rio de Janeiro, when one day it was announced that a huge Pacific Steam Navigation Company steamer had run ashore, some miles up the coast. It happened that there was no available vessel in the port that could be sent to her relief; so, we got up steam, ran up and pulled the stranded vessel off the rock. In due time, an agent of the Company appeared on board, stating that he came to arrange for the salvage. Our admiral replied that we wanted no salvage. The surprised agent urged, however, that the crew might feel differently and that they were legally entitled to a share, whereupon the admiral offered to muster the crew and ask what was their desire. This was done. To a man, the men responded that they would accept no salvage. As one tersely put it, "Naw, we're no bloomin' tugboat." The amazed agent stated that, had it been one of their own men of war, they would have insisted upon every possible penny.

Be this as it may, we are very far, indeed, from suggesting or casting any slur upon our brave Allies. How could we, in the face of the grand work being done for humanity by Great Britain! The British Empire, France, Italy, Belgium, and the United States. Will the world ever forget the stand that has made heroism a matter of nations, instead of individuals?

The crew of our ship was a typic American one. The skeleton was of our native-born, and it contained representatives of every land in Europe, from Russia to Portugal. The extremes were presented by a huge Shinnecook Indian from the Long Island reservation and a native of Fernando Po. The last-named was so intensely black that the skin of his face was cracked like damaged lacquer, dull finish, not polished. But, all of them were members of an American ship's crew; all had imbibed the American, democratic ideas that give another reading to the old expression, *noblesse oblige*, and, possibly, a more worthy one.

After all, saving is not sacrificing.

KEEP YOUR LIBERTY BONDS

Your investment in liberty bonds was made because of your patriotic spirit, your desire to do your bit in a manner that would help our boys "over there" to the very best of your ability; and you should be congratulated for having done so.

You want our boys to hold on in their struggle for us, and, therefore, it is just as much *your* duty to hold on—to your bonds—"over here."

To sell your bonds, except those of the first issue, necessitates a sacrifice. Why not continue in that spirit of patriotism and sacrifice some little personal pleasure or perhaps some apparent necessity, rather than the necessary $4.00 to $6.00 per hundred on the bonds? Moreover, the throwing of many liberty bonds upon the market tends to lower their market value and, consequently, increases the loss of those holders who sell them.

"Our boys" are, in many instances, making the supreme sacrifice for *our* personal welfare, and the least we can do in return

is, to hold on to our bonds, even if it does require some sacrifice. In the end, we shall be repaid for that little sacrifice, for, there is slight doubt that these bonds—the safest and best on earth—will command a premium much greater than the discount one must lose at the present time.

Do not ever allow any promoter of questionable securities to induce you to part with your bonds in exchange for his stock that promises, and even may yield for a limited time, a higher rate of interest.

Many holders of the liberty bonds have been induced by their employers to purchase these government bonds and were allowed to pay for them in weekly payments. In this manner, they have accumulated assets, without even missing their cost, which otherwise they never would have owned.

For employees, the only way to save is, to set aside a sum when your salary is received or, better, to have your employer take it out of your pay-check each payday. In this manner, if you will make up your mind to live on the amount received, you will be constantly accumulating a reserve for that "rainy day" of which we hear so much but for which so very few actually prepare. In any case, it is a wise procedure to set aside for saving a definite amount of each sum received.

Let us definitely decide, right now, to follow this plan and subscribe for as much as we can possibly pay for within a reasonable time, holding our previous purchases or converting them into the later issues as they may be offered. In this way, we shall hold on for dear life, as our boys are doing, and shall greatly assist those boys and our Uncle Sam, while most of us will be agreeably surprised at what we shall have accomplished for ourselves.

HELP THE BOYS.

HELP UNCLE SAM.

HELP YOURSELF.

HOLD YOUR BONDS.

BUY MORE—ALL YOU CAN OF EVERY ISSUE.

Back up those who are offering their all—buy Liberty Bonds.

NURSES WANTED FOR CANAL-ZONE HOSPITALS

Applicants wishing to serve as nurses in canal-zone hospitals shou'd be between the ages of 20 to 35 years (although unusually well-qualified nurses may be considered up to the age of 40), be graduates of schools for trained nurses having at least a two-years' course, and must have at last one-year's subsequent experience in a modern and well-equipped hospital. Also, they must be American citizens, and, if foreign born, must submit satisfactory proof of citizenship. These positions ordinarily are subject to competitive civil-service examinations, however, since the eligible register of the Civil Service Commission is exhausted, that office has been given authority to appoint without examination, so as to avoid delay.

The entrance salary is $85 a month, with laundry of uniforms; but, subsistence is not included. All female nurses will be furnished subsistence when present for duty, for which a deduction of $20 a month will be made from their salaries. Free steamship transportation will be furnished from New York or New Orleans to the Isthmus, salary beginning on date of sailing. Yearly leave, with pay up to 61 days, may be allowed .

For further information, application form, etc., write Chief of Office, The Panama Canal, Washington, D. C.

THE NATIONAL LICENSING OF PHYSICIANS

The suggestion has been made more than once that physicians belonging to the Medical Reserve Corps of the United States Army should have the right, after the war, to practice in whatever state of the Union they may elect, without having to go through the formality of a state-board examination. One officer in the Medical Reserve Corps writes, in a letter to CLINICAL MEDICINE: "If we are good enough to care for the boys here and overseas, we ought to be competent to practice anywhere in the world, and there should be no questions asked further than that we have an honorable discharge from the Army when our services there no longer a e needed.

There is much that might be adduced in favor of this position, and, undoubtedly, the fact that a physician is in the medical service of the United States Army should give him the right to practice in any state of the Union, even as the medical officers of the regular army are entitled to do.

Unfortunately, legislation looking to this end can not come within the jurisdiction of Congress, since the regulating of the medical practice comes within police power of the individual states; and the latter would resent any interference with legislation regulating the medical practice in the respective states. It would be necessary for all states of the Union simultaneously to pass laws admitting the medical officers of the Army to practice within their respective states without passing the customary state-board examination or other requirements now insisted upon.

We should like to hear from our readers, in civil practice as well as in the medical service of the Army, about this question. Without a doubt, it will receive some agitation sooner or later, and it may be as well for us to make up our minds regarding it.

When you buy Liberty Bonds you do not give—you receive.

A FIVE-MILLION ARMY MEANS FIFTY THOUSAND MEDICAL OFFICERS

With an army of three million men in the field or in training and, as contemplated, an expansion of this force to five million men, the Surgeon-General must have in the Medical Reserve Corps at least fifty thousand doctors.

The Medical Corps must keep pace, in growth, with the army's expansion, and it behooves every doctor in the United States, between the age of 21 and 55 and physically, morally, and professionally fitted, to arrange at the earliest possible moment his personal affairs and offer his services to his country in the capacity of a medical officer.

The United States is in the war to do her part in winning the struggle, and this can be accomplished only by a large and well-trained body of troops adequately cared for by a sufficient number of medical officers. The importance of the doctor's service and its relation to the successful outcome of the war can not be underestimated.

As the mobile forces increase in size, so is there an expansion of base hospitals and other institutions for the care of the sick and wounded, and there should be no lack of officers, when required, to give to our patriotic boys that professional attention that is so essential.

It is well for the medical profession of the United States to realize at once that a Medical Reserve Corps of at least 50,000 doctors will be required to meet the demands of the Surgeon-General and upon which corps he can draw for needed medical aids.

We believe that by this time the profession of this country must be fully alive to the needs of the service; so, let every doctor that is qualified feel that he not only is doing his patriotic duty in offering his services as a medical officer, but, that he is relieving the tension of the Surgeon-General's office, by placing at the command of the chief officer of the medical department an adequate force, without the frequent beating of drums to supply the necessary number with each increase of the mobile forces.

If you have not already received an application-blank for commission in the Medical Reserve Corps, your nearest examining board or the Editor of this journal will be glad to supply you.

"CARRY ON"

The second number of *Carry On* is a strong appeal for a rational treatment of our soldiers returning maimed from the battlefield. These men are not asking for charity or putting in their claims promptly for pensions, but, for such reconstruction and training as will enable them to earn their own living without obligation to anybody. They don't want bouquets, but jobs.

We like this. It is true Americanism, and the present number of *Carry On* presents the subject with the vigor to be expected from Wilson, Roosevelt, Schwab and other vigorous American personalities. If out of his four limbs a man has but one left, let him learn to use that.

I once saw a young man who had suffered an amputation of one hip joint, but still supported a wife and five children by dancing a jig on a crutch. Another man made a fortune by losing a hand in a sawmill. Funds were raised to put him through a business college, and he went into fire insurance—and made a far greater success than he ever would have done as a sawmill hand.

The energy with which the project of rehabilitation is being pushed is an illus-

tration of that wonderful arousing of the American mind into activity occasioned by the war. Along this line we may call attention to the Japanese utilization of the blind as extractors of teeth. These men train their fingers by driving wooden pegs into boards, and extracting them with the fingers, until the latter have acquired an amazing strength.

The way to begin the aid of this movement is, to subscribe to *Carry On*. Send name, address and occupation to the office of the Surgeon-General, U. S. A., 311 Fourth Ave., New York.

The best club for a married man is, an armchair in front of a big fire-place, at home.

A GREAT POSTGRADUATE TRAINING CAMP

In connection with the March meeting of the General Medical Board of the Council of National Defense, which was held at Camp Chickamauga, Georgia, the dedication exercises took place of the Warden McLean Auditorium, a gift of Mrs. William McLean, whose son Warden was accidentally killed while in the Officers' Training Camp at Fort Oglethorpe. The formal presentation was made by Dr. John G. Clark, of Philadelphia, while Colonel Henry Page accepted the gift in behalf of the army, saying that it was his ambition to have in the Chickamauga camp a great postgraduate training camp and that he hoped to see all temporary buildings replaced by permanent structures.

General Gorgas argued convincingly for military training for medical officers. He said that, nothwithstanding handicaps, the present American army has established a sanitary world's record; for, it has cared for 1.000,000 men and the death rate is is 10 men per thousand, whereas Japan, during the Russo-Japanese war, was deemed to have accomplished a marvel when she kept her death rate down to 20 per thousand "This is but the beginning of Camp Greenleaf," he said. "This probably will be the focus of our medical activities." He said that Camp Greenleaf, located in the geographic center of 450,000 troops in training, seems the logical location for the one great medical training ground, with accommodations there for possibly 40,000 men, thus trebling its present capacity. He expressed a wish that the Council of National Defense might interest itself in such a project, adding that, from past experiences, he was sure of their interest and cooperation.

Brigadier-General J. B. Erwin, the commandant at Camp Forest (adjacent to Chattanooga), in a happy speech indicative of the present cordial cooperation of the line-officer with the medical branch of the service, evoked enthusiastic applause when he advocated a detention-cantonment for the "laundering" of recruits before they are allowed to mingle with the men in camp; thus decreasing the chances of mumps and measles, diseases which, he declared, are certain to break out wherever large bodies of men are gathered in camp or barracks.

Lieutenant-Colonel Victor C. Vaughan recalled a visit to Berlin in 1907 and a talk with Professor Wassermann in which the latter expressed a fear that the 50,000 soldiers quartered in Berlin and the other like units in other cities indicated that "some day" Germany's military leaders would plunge that country in war, and that this might mean the dismemberment of the empire. Doctor Vaughan expressed the hope that some day he might walk through the streets of Berlin and see flying from public buildings the flag, not of France, nor of Britain, nor of the United States, but, of the Republic of Germany.

Doctor Vaughan, reverting to conditions at Chickamauga as he found them in 1898, when there was not a single miscroscope nor test tube in the camp, contrasted those conditions with the fact that a medical camp has here been established. He contrasted the attitude of the line-officer of those days with the work-together spirit of today.

Dr. Edward P. Davis, of Philadelphia, praised the spirit of the doctors in training, and reminded the audience that physicians really entered the profession of war when they became medical students.

The Warden McLean auditorium building is situated in the center of Camp Greenleaf. Besides the main assembly hall, there are several smaller rooms, including an orthopedic museum, library, and reference-room, lecture-rooms, study-rooms, and office. Since the opening of the camp, 4,000 officers and 20,000 enlisted men have been

trained and sent to duty abroad or to instruct at other camps.

COME ACROSS!

To keep the home fires burning, in other words, to continue to make CLINICAL MEDICINE the most interesting, the most helpful and the most really uplifting of medical journals, we need money. The cost of publication has been enormously increased. The postal rates have doubled and quadrupled, while thousands of our subscribers have been called into the military and naval service.

Brother, we cannot run without money —meaning *your* money. Therefore, if your subscription is in arrears, please don't wait for us to send you a bill, but remit promptly. Also, send in your subscription now for next year; and further, *subscribe for one or more of your medical friends in the service.* You can give no more useful present nor one which will be appreciated more highly.

Meanwhile, don't forget that we need the money Now. Three years for Five Dollars if you pay at once.

LIEUTENANT CLOUGH

We know that the many friends of Lt. S. DeWitt Clough, who for fourteen years has guided the destinies of the advertising and circulation departments of CLINICAL MEDICINE, will join with us in congratulating him upon his entrance into the United States Army. About two months ago he secured a commission in the Quartermaster's Department, and soon after was called to Washington, where he now occupies the important post of chief of the Office Service Branch, Administrative Division of the Quartermaster's Corps. While he is now stationed in Washington, he hopes that the national capital may prove but one station, and a short stop only, on the trip to Berlin. He has applied for field duty.

Since the beginning of the war, Mr. Clough has been restless. He wanted to get in. As a man with a family, holding a responsible position as one of our most important executives, some of us felt that he was needed at home and could do as useful work here as he could in the army. He had thrown himself, with all his wonderful resources of ideas and energy, into patriotic work in this city. He aided in the organization of the Patriotic League of the 26th Ward, of which he was secretary and a member of the Board of Managers; he was secretary of the Liberty-Loan and Red-Cross Drives for the ward; and helped organize and was first lieutenant in the Illinois Reserve Militia. No man in this community has worked harder or done more faithful and efficient patriotic work; but, even this was not enough; he determined to throw up everything and get into the "big push".

We are proud of him, and we know that his friends, of which he has not hundreds but thousands in all parts of the country, will join with us in wishing him a quick trip to the other side, and "the best of luck". Some of these days—and may it be soon—he is coming back to us, for, Clough has not left us. We have just loaned him to Uncle Sam.

"STOP FEEDING OUR FOES"

The following interesting article, containing some excellent advice, appeared in *The Therapeutic Digest* for September, 1918:

"German-made drugs and chemicals are finding their way into the United States by clandestine methods and moonshine trade, and, doubtless, the Federal Government, through the custodian of alien enemy property, is making most strenuous efforts to stop it, but, these efforts must first have the whole-souled support of the patriotic physician.

"A large portion, indeed, a very considerable part, of the money used to make German cannon, ammunition, submarines and other destructive engines of war, including the barbarous liquid fire and the horrifying asphyxiating gases with which to fight American soldiers and sailors, was derived from the sale of German-made chemicals in this country. In other words, the physicians of this country, by their enormous patronage of German chemical firms, are enabling Germany to continue her ruthless and uncivilized warfare against us, and against the sons of physicians.

"That prescribing of these German-made chemicals always was wrong in principle is the contention of *Monthly Therapeutic Topics.* The American people have been, through them, systematically robbed for years, as they were and are exorbitantly priced, probably with this very war in mind, and this in turn has forced the

pharmacist to charge the American public excessive prices. It is a well-known fact, that should have sooner been brought to the attention of the American physician, that the illegitimate profits to German chemical firms, on chemicals sold in this country, run into many billions of dollars.

"The American physician is today in position to prescribe an American-made product with which to replace practically every German-made chemical, and at a much lower price and made under Government control. Galenicals made from indigenous American plants are freely available at reasonable prices, and should have the preference. It is, naturally then, our distinct duty as true Americans, individually and collectively, to eliminate entirely all German-made goods from our materia medica, and replace them entirely with honest American goods, not only for the duration of the war, but for all time. By thus boycotting the enemy's products the physician can strike one of the most effective financial blows at German industrial life."

We endorse the preceding, with one exception, and that is the advice that galenicals should have the preference. Now, as ever, active-principle remedies should have the preference, for a number of reasons: (1) because practically all of them are now manufactured in the United States, and, as a rule, in sufficient quantity, the only exception being those made from drugs of foreign origin and of which the galenicals are just as scarce as the alkaloids; (2) because the active principles require no alcohol in their preparation; their use economizes this substance and decidedly reduces the expense, dose for dose; (3) because the alkaloids and other active principles are more concentrated, more active, more uniform, more efficient, and because they require less bulk in shipment, thereby economizing space and reducing the burden upon our already overtaxed transportation facilities.

But, the advice, as a whole, is good. American-made synthetic chemicals, American-made active principles and other alkaloids—in fact, almost all medicines of vital importance of American manufacture are now available, and a still larger percentage will be available, providing the physician stands behind those endeavoring to free him from the thraldom of the German chemical houses. Of course YOU are doing this, Doctor.

WHY SHOULD THE SURGEON-GENERAL APPEAL FOR MEDICAL OFFICERS?

Of the 146,000 doctors in the United States, it is a safe calculation that at least 70,000 are within the age-limit of from 21 to 55 years and are physically and morally qualified to serve as officers in the Medical-Reserve Corps.

Why, in view of this fact, the Surgeon-General's office should be hard put to secure a sufficient number of medical officers to supply immediate demands and to furnish a reserve force of between forty and fifty thousand doctors is not quite comprehensible.

Every qualified physician, knowing how essential his services are to his country at this particular time, should consider it, not only his duty, but, a privilege to take part in this glorious struggle for humanity and democracy.

This is the time when individual opinion must be sacrificed for the benefit of the whole, and the time is near when every doctor must be in one or two classes: either a member of the Medical Reserve Corps, United States Army, or in the Volunteer Medical Service.

If you are between the ages of 21 and 55 years and there is a doubt in your own mind as to whether you are qualified or not, let the Surgeon-General determine this matter by your applying at once to your nearest medical examining board for a commission in the Medical Reserve Corps.

A man is worth what he gets, for the simple, but, very excellent reason, that he gets it.

TWILIGHT SLEEP

Just why Harry Aranow, in his article in *The New York Medical Journal*, July 13, should designate it as a postmortem on twilight sleep, is not at all clear, for, he makes a strong plea for the method. He thinks that it died a sudden death, not through lack of real merit but, because it failed to live up to a false reputation. Physicians expected too much and patients were promised too much.

Nevertheless, he enumerates the following as universally recognized advantages: Twilight sleep unquestionably shortens the

first stage of labor. The actual perception of pain in labor is markedly diminished or entirely obliterated. The duration of the labor pain is shortened without apparently curtailing the length of the uterine contractions. The patient gets periods of complete rest between pains. There is entire absence of the agonized cries, and also of postpartum exhaustion and shock. Delivery usually is followed immediately by a deep sleep, from which the patient awakes feeling well enough to get up.

As drawbacks, he says that repeated doses of scopolamine are dangerous; an experienced physician and nurse must be constantly at the bedside; it prolongs the second stage and, consequently, the effect of the drug on the baby, and it fails absolutely in some cases. For these reasons, it is well not to promise too much when engaged for a coming confinement. Anyway, every woman expects to have a certain amount of pain at this time.

The time to begin the administration is, when the sufferer begins to say she can not stand the pain any longer. The man who sits still and does nothing to give the suffering creature relief is a brute, and an ignoramus into the bargain. Then is the time to begin with morphine and scopolamine. To one who has never employed this combination, it is a striking picture to enter the delivery chamber and find absolute quiet, the patient apparently sleeping, while the doctor and nurse sit quietly by the bedside. Each pain is followed by an interval of perfect quiet or soft-snoring sleep. When the occiput presents at the vulva, the patient is given a whiff of chloroform or ether with every pain.

Altogether, the report is an excellent presentation; quiet and sensible, not marked in the least by optimistic exaggeration or pessimistic prejudice.

THE RECUMBENT POSTURE FOR PARTURIENT WOMEN

A peculiarly inhuman practice was the custom of former days of obliging women, after confinement, to remain in the recumbent position for ten days. This was enforced in the belief that the body required absolute rest, in order to recover its equilibrium. Another reason was, the fear of pulmonary or cerebral embolism, cases of which had been reported in extremely isolated instances in women who had been permitted to rise a few hours after delivery for the purpose of voiding urine or the emptying of the bowels. Both positions, however, are not well supported by the facts.

It stands to reason that in the recumbent position the uterus, which still is quite heavy, will fall backward and thus cease to drain. Adhesions may form between the ends of the fallopian tubes and the peritoneum, so that very often the unfortunate victims of excessive care are never quite well again. It has been the present writer's practice for years to insist after confinement that women change their position frequently, not only from one side to the other, but, even lying upon the face, in order to equalize the position of the uterus during the first days of its involution and to correct any tendency toward malposition. The recumbent position was permitted only exceptionally, for the purpose of affording a change. This custom is supported and commended by Dr. A. Lapthorn Smith (*Brit. Med. Jour.*, June 8), who insists that we not only should permit, but, even urge the patients to have their position changed at frequent intervals during the first few days and to move their legs freely as soon as they are able to do it themselves. He even considers it as very important that they should be made to sit up on the chamber in bed three or four times a day, to urinate and empty the bowels.

VOLUNTEER MEDICAL SERVICE CORPS

We gladly publish the following at the request of Dr. Franklin H. Martin, chairman of the General Medical Board, Council of National Defense:

The Volunteer Medical Service Corps was authorized by the Council of National Defense on January 31, 1918. Under this authorization, the membership of the Corps consisted of all physicians who because of overage, physical disability, dependents, and essential home-needs were not eligible for service in the Medical Reserve Corps of the Army or Navy.

On August 5, the Council of National Defense authorized a change in the scope of the organization and an increase and amplification of its central governing board. Membership in the Corps as now authorized makes eligible to the Corps

every legally qualified physician, including women physicians, holding the degree of Doctor of Medicine from a legally chartered medical school, without reference to age or physical disability, provided he or she is not already commissioned in the government service. This organization has now the approval of the president.

The Volunteer Medical Service Corps is exactly what its name indicates. It is a gentleman's agreement on the part of the civilian doctors in the United States that have not yet been honored by commissions in the Army and Navy, and a representative board of governors consisting of officials of the government, associated with lay members of the profession, in which the civilian physician agrees to offer his services to the government if required and asked to so do by the governing board.

It is a method of recording all physicians that are not yet in service and classifying them so that their services when required will be utilized in a manner to inflict as little hardship on the individual as possible. It is a method by which every physician not in uniform will be entitled to wear an emblem that will indicate his willingness to serve his government.

As more than sixty percent of the physicians of the country will be utilized in caring for the industries at home and the health of the home people, this large percentage of necessity will be expected to maintain their home status and continue their ordinary professional work.

DRINK MORE WATER

In *The British Medical Journal* for June 8, Dr. A. Lapthorn Smith enlarges upon the great demands of the human system for water. The kidneys, the skin, the bowels, the lungs, all are calling for water, to enable them to carry on their functions. This applies in equal measure to men and women, but, in the case of nursing women, lactation makes a large additional demand. It has been said that many of the aches and pains from which women suffer would not have afflicted them had they been water-drinkers. The author declares that he has seen many women operated upon for gallstones, who would never have had them if their bile had not been a supersaturated solution of biliary salts ready to deposit crystals upon the slightest occasion. Many calculi have been removed from the kidneys and ureters that resulted from the supersaturation of the urine with solid matter and would not have been formed if the specific gravity of the urine had been kept down by the copious ingestion of water. Early in his career as an abdominal surgeon, Doctor Smith came to the conclusion that the tragic deaths from pulmonary embolism, which years ago were much more frequent than they are now, both after operations and confinements, were owing particularly to the excessively fibrinous condition of the blood.

In general, physicians and nurses are urging their patients to drink water much more freely. Most of us can remember the time when fever-patients were prevented from assuaging their burning thirst, when women in confinement were forbidden to drink much and certainly were not permitted to drink cold water. Even quite a short time ago, nothing was allowed to pass into the stomach of the patient after abdominal operation, no matter how great the craving was for water or other drink. Doctor Smith relates that medical friends who have been operated upon have assured him that their greatest desire was for a drink of hot tea and, acting upon their suggestion, he now always prescribes it as soon as the patient comes out of the anesthetic, whether there is vomiting or not.

Altogether, Doctor Smith concludes that even before operation the blood should contain the full normal proportion of water and that the amount of liquid lost by vomiting, catharsis, sweating (hot operating-room), hemorrhage, and urine, either during the operation or immediately after it, must be replaced.

The patient should be given an abundance of water between meals and during the night. It may be hot or cold, sweet, sour or salty in the form of lemonade, barley-water, weak tea without milk or beef-tea; a jug and drinking-cup with spout should be left within the reach, so that it may be taken when wanted, without waiting for the nurse to come. These precautions, Doctor Smith is convinced, will diminish the danger of pulmonary embolism by the very fact that the relative amount of fibrin in the blood is less, and that there is smaller danger of coagulation.

Leading Artieles

Dermatological Notes—III

The Pathology and Diagnosis of Eczema

By A. V. RAVOGLI, M. D., Cincinnati, Ohio

THE clinical symptoms of eczema, to be thoroughly understood, must be supported by microscopical examination and histological knowledge.

Miscroscopically, eczema exhibits all the characteristics of dermatitis, the alterations of which affect the epidermis and the papillary layer. The subpapillary connective-tissue elements also are somewhat affected, mostly through the enlargement of the blood- and the lymph-vessels. The congestion causes some edema of the papillæ, the exudation of serum, and the degeneration of the collagenous and the elastic tissues. Also, the effusion of the white elements of the blood is the cause of the proliferation of the connective-tissue corpuscles. In eczema, the connective-tissue elements remain small and may show some increase in the nuclei.

The epidermic cells of the cuticle show the principal alterations, which can be considered as an edematous alteration. The layer of the prickle-cells, the spinous layer, is affected, the keratinization of the cells not taking place; they consequently, are bound to necrose. This parakeratosis of the corneous stratum, through the accumulation of horny unkeratinized cells, forms masses in the form of scales. The scales of eczema are easily distinguished from the scales found in other skin affections, such as pityriasis rubra pilaris. In eczema, the epidermic cells are infiltrated with serum, hydropic with increased nuclei. In the other scaly affections, the epidermic cells are dry and atrophic, the nuclei are no longer perceptible. The increase in the serum, the hydropic condition of the horny layer, causes the easy detaching of the scales and the denudation of the deeper layers of the epidermis. The masses of epithelial cells, together with the secretion of serum, mixed at times with pus, form cakes, which, getting dry, cover the underlying papillary layer in the form of crusts. This condition of the epidermis was called by Unna spongioid, and was accepted by the French authors as spongiose condition. The lymph, with its leukocytes, pushes through the spinous layers and, reaching the horny layer, detaches it, forming vesicles—which latter we have pointed out as characteristic of eczema. The epidermic layer forming the vesicle soon breaks and, with its contents, dries up, and forms crusts. It seems that the epidermic cells forming the horny layer in eczema are not in necrotic condition, but, are just pushed by the serum and detached, forming the vesicle. In chronic eczema, the horny layer constantly infiltrated with serum may undergo proliferation, and it is not rare to see a certain degree of akantosis. When the papillary layer, under constant irritation, shows proliferation of its connective-tissue elements, it may form small papillary bodies covered with hypertrophic products of the horny layer.

In the crusts of eczema, many different cocci have been found by Unna, Malassez, Sabouraud and others, but so far not one of them can be considered as the factor of the disease. As for ourselves, we adhere to the staphylococci as being the cause of eczema.

As previously stated, we find in a great many cases of eczema foci of purulent mat-

ter, either in the duct of the ear, in the gums, in the tonsils or concealed in the nasal sinuses. The idea of the role of anaphylaxis is a very good one, but, it seems not to explain much, rather adding to the confusion. That food-proteins, acting upon sensitized body-tissues, may cause urticaria or erythema as a consequence of anaphylaxis, we believe, but, we never can accept this theory with regards to eczema, which we have seen to be the result of pus-germs in the epidermis and the papillary layers. Neither can we accept the views of Gougerot, who considers eczema as a defensive reaction on the part of the organism to get rid of toxins, when at first, we see eczema limited to some fold of the skin and to spread only after some time.

When new crusts are formed in eczema, when new rhagades are furrowing the affected epidermis, a relapse of the eczema takes place, new vesicles being formed; thus showing that the virulent pus-germs have found their way into the depth of the epidermis and causing the reacutization of the disease. We find that impetigo has to be separated from ordinary eczema which, however, has no bearing upon the nature of the disease. Impetigo is the result of staphylococcic infection and, if not cured soon, may bring on eczema. Eczema impetiginosum can not be entirely discarded, when, in some cases of eczema, especially of the scalp, we see dense, thick crusts formed by pus and greasy substances from the irritated sebaceous glands.

Eczema is an inflammatory affection of the epidermis and papillary layer, which shows different degrees, according to the time and to the liability of the skin. There can be no doubt that the staphylococci, which live as saprophytes in a healthy skin, become pathogenic in a poorly nourished skin. An irritation or a dermatitis that causes an abrasion of the epidermis will open the door for the attack of the germs. Hyperemia, active congestion or exudation causes the formation of vesicles, as well as all the symptoms that we have gradatim and carefully considered in a previous chapter.

Differential Diagnosis of Eczema

Eczema is so changeable and its symptoms are so inconstant that it requires to be studied in comparison with the other skin diseases, which, although entirely different, yet, may be easily mistaken for it. Moreover, we have already mentioned that eczema often accompanies other diseases of the skin and that it is only a complication.

It would seem that, having present the symptoms, inflammatory edema, small nodules, vesicles, abraded red surfaces, oozing serum, pustules, and crusts or a red surface covered with scales, nobody can mistake eczema for any other disease.

The changes in the symptoms of eczema mostly depend upon the intensity of the inflammatory process and upon the phase into which the disease has entered. At all events, an acute eczema begins with redness and swelling of the skin (eczema erythematosum and papulosum), it is then followed by vesicles and oozing (vesicular and seeping eczema), then there will follow crusts and scales (eczema impetiginosum and squamosum). The second period represents the acme of the disease, while the third, or last, shows the involution of the process.

The beginning of an acute eczema will be difficult to be separated from an artificial dermatitis. It is the same question of an artificial dermatitis Devergie or of an acute eczema of Rayer. In the practical case, however, taking under consideration the region in which the affection has developed, where the skin has been exposed to irritating physiochemical or mechanical agents, the sudden onset of the inflammation a few hours after the exposure, and the individual who has never suffered with eczema, these factors will prompt the diagnosis of dermatitis calorica, actinica, venenata or ab acribus, which, when an individual has been already subject to eczema, without there being a patent cause, is suddenly seized with redness, swelling of the face, neck or of auricles, eyelids, with small vesicles, and oozing of serum, will surely be a case of an acute eczema.

In patients of an advanced age, redbrownish patches are found in the face, nose, ears, and neck; the epidermis is rough, thick, in some patches glistening, in others covered with greasy crusts; and it is accompanied by an itching sensation. These are patches of keratosis and are referred to a precancerous condition. They remain dry, never show vesicles nor ooze, and have nothing to do with eczema. They must be treated by means designed to destroy the thick epidermis and to obtain a

new soft epidermis covering. We have already stated that, often, eczema accompanies other diseases of the skin, especially those of an itching type. It is, therefore, of great importance to differentiate eczema from the other diseases that are the principal cause of it.

Forms to Be Differentiated

Prurigo, in all its different varieties, is often accompanied by eczema. Prurigo is a dry form of skin affection, made up of small dry subepidermic papules, isolated, their tops covered by small black crusts, which give the impression to the exploring finger as of sandpaper; it is accompanied by an itching sensation, which may prevent the patient from sleeping. It is a disease by itself and has no relationship to eczema. By scratching, the patient wounds the skin, excoriates the papules, and then eczema is soon produced. In this latter case, eczema is only an accompanying symptom, while prurigo is the principal disease. It will easily be discovered that the patient has suffered from prurigo since childhood and that eczema has come on only at times, mostly when the patient has had a recrudescence of the symptoms of prurigo.

In *scabies,* we may find eczematous patches in different parts of the body, mostly those exposed to friction. In those who by their trade are compelled to sit down, such as tailors and seamstresses, the buttocks often are affected with eczema, on account of their rubbing against the seat of the chair. Under the axillæ, under the breasts of women, in the folds of the skin of the abdomen, in the crurogenital fossa, eczema is the result of scratching because of scabies. It will not be difficult in these cases to ascertain the presence of scabies and that eczema is only accompanying the latter. This, of course, has to be removed first before a cure of the eczema can be effected.

In mentioning the causation of eczema, we have pointed out that *seborrhea* of the scalp often is the factor of the disease, especially in children. Seborrhea of the scalp is so intimately connected with eczema that some authors have called it seborrhoic eczema. We do not think it necessary to establish such a variety of eczema, but, that it is better to consider eczema as a complication of seborrhea. In this case, the epidermis is red and covered with yellowish dirty crusts adhering firmly to the epidermis and to the hair-follicles, while serum is oozing from the excoriated epidermic surface. Eczema that has developed under the greasy crusts of seborrhea does not remain limited to the scalp, but, extends to the forehead, auricles, cheeks and neck, as a diffused redness, with small vesicles, excoriations, oozing serum, and a burning and itching sensation.

Herpes tonsurans, tricophyties, often is mixed with eczema. In clear cases, the lesion is well defined and easily differentiated from eczema; but, in many cases, when, on account of the stubbornness of the affection and of the scratching, eczema is a complication, it is not so easy to differentiate. Patches of stubborn eczema of the palms and of the metacarpophalangeal region have quite often the tricophyton as their cause. One of the characteristics of the presence of tricophyties is, the eczematous patch, which remains limited, for a long time, does not grow much, is round in shape, and has small papulous vesicles, mostly near the edge of the patch. The socalled eczema marginatum of the crurogenital fossa is often mistaken for real eczema, but, it is a parasitic affection of the tricophyton variety. In cases of doubt, the microscope will reveal the presence of that parasite.

Lichen, planus or acuminatus, has nothing to do with eczema. The papules of lichens are dry, glistening, polygonal in shape, with a small depression in the center. Unless, on account of the irritation from scratching, eczema should occur, this is only an accompanying incidental affection. In some cases of lichen urticatus, it may be found somewhat difficult to establish the diagnosis. The small papules of lichen are dry, isolated, and no vesicles or oozing can prompt the diagnosis of eczema.

Some cases of *lichenification* (or lichenization, as it is called by the French) are difficult to separate from eczema. It is possible that they are the result of the inflammation of the papillary layer caused by the chronic, long-standing eczema. It is also possible that it has something to do with lichen. They are patches of thickened skin, formed by little coalescent papules, red-brownish in color, round in shape, and of the size of a silver dollar to that of the palm of the hand. They are found around the axillæ, the flexion-

surface of the joints, the neck, and the genitals. The hard, thickened skin, with the small papules, resembles chagrin-leather, and they cause a great deal of itching. These patches have also been considered a neurodermatitis by Brocq. They are chronic and rather refractory to treatment.

Dermatitis herpetiformis is entirely different from eczema. The vesicles here are scattered over the surface of the body, are small, separated, and grouped in few clusters, so as to recall the disposition of herpes. It also is accompanied by itching. It can be associated with eczema only incidentally.

Impetigo contagiosa may be mistaken for eczema impetiginosum, especially when affecting the scalp. The presence of other groups of vesicopustules on the face and hands helps to differentiate it from eczema. Impetigo contagiosa due to a more virulent kind of pus-germs has a more rapid onset. The vesicles soon turn into pustules, and their dried contents form hard yellowish crusts. The eruption takes on a roundish conformation. It is very contagious, and often it is found that several children in a school or in a neighborhood are affected with a similar eruption. It is easy to distinguish the affection from eczema; but, when not early recognized and not properly treated, it may be the starting-point of eczema, and then the diagnosis will be difficult. Even *lupus erythematodes* of the diffused type may, for a while, be mistaken for eczema; however, the absence of oozing and of vesicles, the erythematous lesions somewhat elevated and of dark-bluish color, affecting mostly the palms and the interdigital spaces will soon make the diagnosis clear.

The papular eruption of *syphilis* in the secondary stage may be accompanied by eczema. Mucous patches around the genitals or around the breasts of women, by their irritant secretion, cause maceration and excoriations of the epidermis, and thus frequently eczema is produced. Syphilis has nothing to do with eczema, except that because of the foul secretions moistening the skin eczema may supervene. Condyloma planum or mucous patches are so peculiar and so characteristic that they are soon recognized. In cases of syphilis of the papulosquamous type affecting the palm of the hands, there may be some doubt about differentiating it from palmar eczema. Eczema of the palms is in form of patches, somewhat hard, covered with thin scales, irregular, while the papulosquamous syphilide shows papules, always brown-reddish in color, and disposed in somewhat round plaques, with large, thick scales.

Prognosis

As a general statement, eczema is curable in all its varieties, both acute and chronic, in all its stages, and whatever the cause. Whenever eczema can not be cured, it has to be more closely investigated. It may be that prurigo or lichen is the substratum and that the eczema is only an accompanying affection, and, with some patience and perseverance, we shall be able to bring it to recovery. In some cases, the treatment is not carried out as it should be, owing to lack of nursing or, as it occurs in children, the difficulty of keeping them from scratching and in maintaining the local applications in place.

It is difficult to have a permanent recovery in those cases of eczema caused by the occupation. The patient goes back to his work, is exposed to the same chemicals, to the same irritation, and, of course, is liable to get eczema again. In the same way, in the case of those addicted to immoderate use of tobacco or alcoholics, if they do not abstain, we find it difficult to effect a permanent cure. When foci of local infection are present, such as abscesses, sinuses, ulcers, and varicose veins, it is necessary to remove those foci, to open the sinuses and remove the purulent collections. In the same way, the varicose veins have to be healed up; or if necessary, they may be ligated or removed. Impetiginous eczema of the scalp often is connected with the presence of lice, and, in order to cure the eczema, these parasites must be removed.

The stubborness of eczema is, in many instances, the result of the manner of applying the remedies. Some physicians are spreading the superstition among their patients that the skin, when affected by eczema, must not be washed, but, this results in dirt, crusts, and secretions forming thick crusts, and tends to keep up the cause of the eczema. On top of those crusts, they apply a salve, which remains on the crusts without any possible effect on the

excoriated surface of the papillary layer.

Eczema is a curable disease, the idea of the metastasis from eczema, especially in children being wrong. Eczema has never traveled from the skin to the lungs or to the meninges. It must be cured by all the means at our disposal.

As already stated in a previous chapter, eczema is not a hereditary disease—nobody has ever transmitted eczema to the offspring—and the patients have to be assured that, when they are cured of eczema, their offspring will not be affected.

[*To be continued*]

The War Work of the American Woman

By IDA M. TARBELL, New York City

EDITORIAL COMMENT:—While this communication by Miss Tarbell was intended for the Woman's number (September issue) of "Clinical Medicine", it will not detract from its interest that publication was possible only now.

AFTER sixteen months of war, things are just beginning to be so shaken down in this country that we can see with some definiteness what the essential lines of war-work for women must be.

At the start, there was a tendency among women everywhere to look across the water and prepare to do here what women were doing there; but, it was not long before it became obvious that our country had very different things to do—its women particularly.

Women and the Food-Campaign

Almost immediately, it was grasped that America's great work, outside of that of her army and navy, was, to be feeding the Allies. It was at once recognized by the president and by Mr. Hoover that, if this work of feeding were done, it only would be through the cooperation of the women. Thus the food-campaign became, and remains, the preeminent war-work of the American women. No one that has studied their effort to date will take issue with Mr. Hoover when he says that, while the whole American people have cooperated wonderfully in carrying out the program of the food administration, it is to the American women particularly that gratitude is due. They have begun to understand what is required of them, and to do it.

And now comes the great task of holding the community steady, as long as the war lasts, to this program. Food will be raised and saved or substitutes found and used in sufficient quantities only by the effort of the aggregate of our people. We can not afford to have anywhere, in any community a food-slacker. The great body of educated, serious women understand this.

A large, new, and vastly important food-campaign is being put up to them now in the educational work necessary everywhere to swing into line the great numbers of uneducated people who do not have the time or the means of learning the importance of the food-campaign or the ways of following it out.

The real soldier in the women's food-army not only raises, saves, and substitutes, but, she teaches her neighbor why and how to do the same thing.

Women in the Red-Cross Work

After the food-army, come the Red Cross and relief armies. If the American wounded are being properly taken care of in Furope today (and we believe that to be the case), it is largely because of the astonishing response that women have made to the call for supplies of all kinds. Virtually the whole woman-power of this country is organized in Red-Cross work. There never before has been such an exhibit in the history of the world as women are making today, and the wonder of it is that so large a part of the work is being done by women already burdened with family cares. The hard-working women of this country are doing the bulk of the Red-Cross work. The women, too, are responsible for raising the bulk of the funds for the Red Cross. They feel that this is *their* institution, and they are right in that feeling.

The Drive for Nurses

One of their latest efforts has been their drive to bring into training for nurses greater numbers of young women. The

need for nurses can not be overestimated. The army is exhausting the supply of the country. We must prepare for new drafts, and we must not in the meantime allow our own sick and suffering at home to be neglected. It shows scant appreciation of the fighting man in the field to allow his wife and his children to suffer for a lack of nursing here, even though we are sending everybody that we can muster to him. It is up to the women of the country to see to it that both things are being done; and there is no question at all that the young women will rally to this noblest of service, if the problem is put before them properly. Training, to keep full the ranks of this important profession, may have none of the glamor of serving in France, but, it is one of the most fundamental of war-needs.

Securing Funds

Our experience so far in the war shows that another permanent task demanded of women is, to conduct the drives for money, and we realize now that this will be with us as long as the great undertaking is on hand. The women, from the start, took on a large part of the burden of these drives. They have been increasingly important in the Liberty-Loan drives. Without them, neither the Red Cross funds nor the Y. M. C. A. funds could have been raised in the prompt way that they were.

In every community, we find that women are settling into this as one of their fixed war-obligations. The methods of conducting these drives should be carefully studied, and betweentimes the woman-force be enlarged and instructed. Each successive one ought to be done more easily, and each successive one ought to reach effectively larger numbers of people.

The accepting of these tasks by women is contributing enormously in keeping up the morale of the communities; and, after all, there is no more important war-work for women than just that—to hold a community steady under the repeated shocks and strains and horrors of prolonged war. The keeping up to par of every social, educational, and religious institution in a community, the determination to hold the community in such a way that, when the warrior comes back, he will find something as good or better than he left—that is eminently woman's work. When she settles down, as she is doing, to understand what her great campaigns are, to tackle them steadily and persistently, she will find that this very fact helps her immensely in this most-important of tasks of keeping up the morale of the community.

It makes up a most dignified and serious program for the American woman. It calls every woman into ranks. Nobody can escape the obligation in regard to food, to relief, to helping in finances. It is right here at our door. And it emphasizes a fact most important in life, that you come to a crisis such as war. It is the great simple, obvious, everyday things that are of real importance.

After Thirty Years—VI

Notes and Reflections on Life and Work

By WILLIAM RITTENHOUSE, M. D., Chicago, Illinois

[*Continued from September issue, page 671.*]

Secrecy, and Medical Ethics

IT IS not my intention to reproduce the code of ethics in these articles, but, simply to discuss certain phases of ethics that many times are disregarded or violated. One of these is, the obligation resting upon the doctor to observe secrecy regarding the private affairs of his patient. Not only are there many ailments the nature and details of which are none of the public's business, but, the doctor, as a result of the peculiarly confidential nature of his work, often comes into possession of family secrets.

The patient has a natural and inherent right to expect that his physician will be faithful to the trust reposed in him, and not make public any information obtained through their confidential relations, if that information could cause embarrassment or annoyance to himself or his friends. Thus, for instance, a woman may object to having it known that she is suffering from piles or painful menstruation or that she is the involuntary hostess of a tapeworm.

This is her privilege, and the only safe rule for the doctor to follow is, to be as silent as the grave regarding the affairs of his patients; even his own family are not entitled to share his knowledge of those affairs. Some patients do not come as readily to an office in the doctor's home as they would to an office in a business-building, and one of the reasons is a feeling of shyness as to the doctor's family. They experience a degree of embarrassment at the possibility of others than the doctor himself having a knowledge of their ailments.

Privileged Communications and the Law

In most countries, the confidential relations of physician and patient have, in the past, been respected by the courts. Information obtained by the doctor in the exercise of his professional duties has been on the same plane as that obtained by the priest in the confessional: both are held to be privileged communications. Although in some instances this may be of advantage to criminals, yet, on the whole, broadly considered, it seems to me sound public policy. If the law were to disregard this privilege in the case of the physician, I can see no reason why it should not be disregarded in the case of the priest; and it seems to me that the complete abolishment of the privilege would entail far greater evils than does its maintenance.

Of late years, there have been changes in the law in some states, and physicians have been punished by the courts for refusing on the witness stand to reveal secrets acquired in the exercise of their duties. The new law in this state (Illinois) requiring physicians to report venereal disease is an illustration of this tendency. Of course, the object in view is a praiseworthy one, namely, the protection of the community against the ravages of venereal disease, from which the innocent suffer as well as the guilty. But, it is an open question whether the harm done by this publicity may not overbalance the good. Only time and an unprejudiced observation of the workings of such a law can settle the question.

I can imagine cases—in fact, I have met cases in my practice—where I should feel it my duty to disobey such a law and take the consequences. Doctors have been sent to jail for taking this stand. Individual sacrifice sometimes is necessary to uphold a principle, and I have no doubt that the members of the medical profession would have the courage to resist the attempt to compel them to violate the confidences reposed in them by their patients. In civilized countries, the law does not require a man to incriminate himself, and it would practically amount to that if the accused could be convicted on evidence communicated in confidence to his spiritual, legal or medical advisers and wrung from them by a court. The history of the world shows that the rights of the individual have been maintained by individual sacrifice. Men are dying today in France in defense of the principle of individual rights.

Let us suppose that the doctor, in the exercise of his profession, comes into possession of the knowledge that a crime has been committed. He may be called to save the life of a woman having had a criminal abortion performed; or, a wounded burglar may call upon him for surgical aid. Shall he refuse his succor until he has ascertained whether there has been a crime committed? Certainly not. Shall he later take his professionally acquired information to the authorities? Not, unless the circumstances are extraordinary. He is neither judge, juryman, nor public prosecutor, and he is not morally bound to assume to himself the duties of these functionaries. His duty is, to save life, and, ordinarily, it ends there. I can imagine a crime so heinous that the doctor would be justified in actively helping to bring the criminal to justice. There are some criminals that have forfeited all human rights and deserve no more consideration than does a wolf; but, usually the doctor may safely leave the machinery of justice to do its duty, while he confines himself to his own.

Some doctors, when called to a victim of abortion, refuse to take the case unless the patient confesses to the identity of the person causing it. This seems to me utterly unjustifiable, because utterly futile. What proof has one that the patient is telling the truth? Some doctors claim to take this stand in self-protection. But, the doctor can protect himself quite as well by having the patient absolve him, personally, in the presence of witnesses, from complicity, if he feels that his own reputation for integrity is not a sufficient protection.

As to wounded criminals, even though I might have no compunctions about bring-

ing such cases to the notice of the authorities, an instance or two from my own experience will show of how little value would be the effort to play detective.

One night at about 11 o'clock, two men entered my office. The one had a jagged torn wound in the palm of his hand. He said that they were loading some old planks upon a wagon, when a projecting nail in one of them caught him in the hand and tore its way through. I learned afterward that they had tried to rob the conductor of a horse-car. The driver came to his assistance with the car-hook, an instrument now obsolete, but, in those days used for quickly hitching the horses to the car. One of the robbers literally "got the hook", as they say in vaudeville.

On another occasion, I was called to see a man with a bullet in his foot. He explained that he had been cleaning a revolver and "didn't know it was loaded." The truth was that he had tried to hold up a citizen, who proved to be game, and in the struggle the robber got his own bullet in his foot.

In the case of an abortion, the patient can very easily tell some plausible story, which the doctor can not disprove on the spot. For all he can tell, the patient may have brought it on herself, although it may have been accidental.

All that can be asked of the doctor is, that he shall not *actively* obstruct the course of justice. If his contact with a case brings him into court as a witness in a state where the law would require him to testify, he must decide for himself whether the principle at stake is such as to justify a refusal to testify. As a rule, it would be best to engage an attorney and be guided by his advice. Common sense would seem to require that facts necessary to establish justice should not be privileged, while all others should.

The Virtue of Patience

As a matter of course, the doctor should exercise unlimited patience with the sick and to some extent with the members of the patient's family. Not only illness, but, also extreme anxiety is prone to render people unreasonable. However, the doctor is under no obligation to extend his patience and consideration to meddlesome friends and neighbors that obtrude gratuitous advice or criticism. Such people do an immense amount of harm, even to the extent of causing the sacrifice of life. They are difficult to deal with, because they work in the doctor's absence, and because it is a great deal easier to arouse prejudice than to subdue it.

reputation for integrity is not a sufficient protection.

As to wounded criminals, even though I might have no compunctions about bringing such cases to the notice of the authorities, an instance or two from my own experience will show of how little value would be the effort to play detective.

The best that we can do in regard to this class is, to try to forestall their efforts by educating our families by a bit of teaching, from time to time, to develop saner ideas on the subject. That bane of the profession, the tendency on the part of the ignorant to change doctors as soon as a condition becomes serious, mostly is the work of meddlesome friends. It not only is the doctor that is wronged, but, the patient as well. A new doctor coming into the case is at a disadvantage, in not being familiar with its course and treatment up to that time, and he is not able to work with perfect confidence, feeling that his tenure of the case is insecure, as people that have changed once are liable to change again. When people talk of changing doctors, we should remind them that those who are always doing that get the poorest service.

Frequent Visits

Frequent visits are a help and encouragement to the sick. The doctor should see his patient often enough to keep thoroughly informed as to the progress of the case. The arrival of the doctor is looked forward to by the sick man as the one cheering event of the day. Of course, the frequency should depend upon the gravity of the disease, and it can be overdone; but, it is better to make too many visits than too few. In the former case, the patient may think of his pocketbook, while in the latter he will resent being neglected. In this matter, the exercise of good judgment is called for.

Some years ago, during my absence on a vacation, the little son of one of my patrons fell and struck his forehead on the edge of a stone step. The spot puffed up in a few minutes to the size of a walnut, as such contusions will. It was a hurt for which in our boyhood our mothers

would have resorted to the camphor-bottle. However, a doctor from the vicinity was called in. He talked learnedly about concussion of the brain, put the boy to bed for a week, and visited him every day, even though after the first day the boy was as well as he ever had been in his life. The doctor sent in a charge for six visits, but, this the father refused to pay until it was cut down to less than half. The principal thing that the doctor got out of it was, the ill will of that family and their friends.

This man's mistake in judgment (or was it avarice?) reminds me of a young doctor who had settled in a country district and one day was going along the road to give himself the appearance of being busy, when he was hailed by a farmer working near the road. "Be you the new doc?" asked the farmer. The young man pleaded guilty. The farmer held out an arm with a highly inflamed spot on it and said, "What's that, doc?" The doctor inspected the spot with a wise air, thought he saw a case, and said: "Why, that's erysipelas." "Ery hell," spurted out the farmer, "a bumblebee stung me." That doctor went his way a humbler and a wiser man.

Patients differ greatly in their ideas as to what constitutes proper frequency of attendance. One will feel neglected if the doctor does not call often: another will want to make the decision himself as to when and how often the doctor shall come. The latter sort may need instruction as to the danger of neglect and the wisdom of allowing the doctor to be the judge of what is needed.

Here is my ideal family. About twenty-seven years ago, a man into whose house I had been called a couple of times said to me: "Doctor, I have a good many children and I should like to have a family physician upon whom we could depend at all times and whose charges would be within my means. I have not a large salary, but, I pay my bills every month. If, in view of prompt payment, you could afford to make me a special charge per visit, we should feel free to call you often, as sometimes we are a little at a loss to know whether an ailing child needs medical care or not and should be willing to pay for a visit to find out. You could also feel free to make visits as often as you thought necessary."

I cheerfully gave this man a liberal reduction, and that family is still with me, having been one of the most profitable and satisfactory on my list. They sometimes called me when it was not necessary, but, they always paid cheerfully for the satisfaction of knowing that there was no danger. We have come through times of great trial and danger together, but, they have always left it to my judgment as to when counsel should be called. I never needed to fear that meddling friends would undermine their confidence in me. Contrast the service, that such people receive, with that obtained by people that have several doctors in a year or even two or three in one illness.

Gloomy Prognostications

Some doctors, either from inborn pessimism or from the desire to magnify the greatness of the cure, get into the habit of exaggerating the seriousness of their cases and of giving gloomy prognoses. Most of us have met a specimen of this class. His cases of measles are all "black" measles—his diphtherias are always "black" diphtheria—his pneumonias all "double" pneumonia. He informs the family that it is fortunate they called him when they did: a little more delay, and it would have been impossible to save the patient: indeed, it may already be too late, but, he will "do his best." This is no fancy picture; I have run across the trail of this pestiferous windbag many a time. Pessimism in a doctor is, unfortunate, to say the least; however, wilfully exaggerating the gravity of a case is immoral, if not criminal.

A doctor ought to bear in mind that a cheerful, reassuring manner is one of his most potent remedies, while the opposite attitude may cancel all the benefit of his medicines. The patient should feel his courage renewed and strengthened after the doctor's visit. He ought to feel that, after all, things are not as bad as they might be. Even when a fatal outcome seems inevitable and the patient puts the direct question to the doctor, it is best, as a rule, to put the answer in some such form as this: "You are a pretty sick man and there is some danger, but, then, even very sick people often get well." This is perfectly true; we all can remember cases that seemed hopeless and, yet, the patient got well.

I, once, took a patient to a specialist. After the examination, the patient said: "Doctor, have I got an even chance?" The

brutal answer was: "No, you may live three months; certainly not more than six." That was seven years ago. The patient is alive and fairly well today, and (oh, irony of fate!) that doctor—he is dead.

Abandoning Hopeless Cases

Some doctors make the mistake of saying to the friends of a hopelessly sick patient: "I have done all I can for him. There is no use of my coming again." This is an exhibition of bad judgment. It adds to the despair of the patient as well as to the anguish of his friends. Not only is there the possibility of the doctor being mistaken, but, even when death is certain, his visits afford a moral support and comfort in life's most trying crisis. The gratitude of many a family has proven to me the soundness of this attitude.

The ignorant sometimes place us in an embarrassing position. The father of a little victim of pneumonia once said to me: "Doctor, can you cure my boy? If you can not, I want to get a doctor that can." Had it not been for the sadness of the occasion, I should have been compelled to smile at such naive reasoning. It is not an easy matter to deal with a mentality so befogged with ignorance. I said to him: "You are at liberty to get another doctor, if you wish, but, stop and consider whether it is wise to swap horses while crossing a stream; whether it would be a help or a hindrance to your boy. How would you know that another doctor could save him? If a doctor said he could, how would you know whether he were telling the truth? A new doctor coming into the case would be at a great disadvantage. The wise thing for you to do is, to let me call a skilful man in consultation, so as to get the best from both of us." However, the man was afraid of collusion between us, in order to cover up my supposed mistakes.

[*To be continued.*]

2920 Warren Avenue.

The Reeducation of the Blinded Soldier

By EMMA KASPAREK ENGLAND, B. S.
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IN previous wars, it appears, the reeducation of men whose disability interfered with their return to their former occupations was not undertaken by any government. The training of disabled soldiers and maintenance of their families was left to the resources of the victims themselves; the only assistance rendered by the government being the allowance of small pensions.[1] Today, life in an "old-soldiers' home" is deemed an unworthy reward from a country whose citizens stood between the world's freedom and Prussian tyranny.[2]

During the Crimean war, about 0.65 percent of the soldiers were blinded; during the Franco-Prussian war, 0.86 percent; in the Russo-Japanese war, 0.22 percent. Owing to modern trench-warfare, however, from 5 to 8 percent of those that are wounded in the present war have eye-wounds.[3]

Everything that mind can conceive is being done to bring together the blinded soldiers, in order to care for them and teach them to overcome their handicap, so that they may learn to be happy and useful members of society.[4]

The problem is new, and a new science of dealing with it is being brought into service. The literature on this subject is meager and scattered and much of it printed only in foreign languages.[5]

The French System for the Return of Blinded Soldiers to Civilian Life

No final plan has been reached by the French for returning blinded soldiers to civilian life. Existing social organizations have been unable to meet the needs created by the war. Public and private energies produced many new societies, but, their aims will be more advantageously fulfilled as the systems grow.

The laws which France passes for the return of her disabled are in harmony with the principles that underly her constitution;

[1] Military Hospitals Commissions Bulletin, p. 80, May, 1917.
[2] Military Hospitals Commissions Bulletin, p. 3, March, 1918.
[3] Journal of the American Medical Association, Vol. 70, Feb. 9, 1918.
[4] Pamphlet: Sir Arthur Pearson's Appeal for Blinded Soldiers.
[5] American Journal of Care for Cripples, 5:95.

however, they are all subject to revision while the ideal is being sought after. Some of these new laws will be retained, some will be altered and some abolished. Whatever is best for the nation will eventually, be adopted. Information is sought from men and commissioners intrusted with the work, rather than from heads of legislative departments. Accuracy of knowledge of existing conditions will produce methods most suited for the purpose for which they are intended. The experience of France is important, inasmuch as it will aid the other allied nations.

All of France's disabled soldiers go through the following processes before they are returned to civilian life: (1) Active medical and surgical treatment; (2) functional reeducation; (3) furnishing of artificial appliances; (4) professional reeducation; (5) industrial establishment in civilian life.

Active medical and surgical treatment is received in special hospitals that have been established by private subscription or by military authority. After careful examination, the patients are operated upon, if necessary. By functional reeducation, is meant treatment of the part injured, so that it may react as nearly normally as possible.

Specially trained ophthalmologists care for the blind.[6] Functional reeducation of the blind includes teaching the subjects to be cheerful, to be filled with hope, and to cultivate a proper outlook, for, depression incapacitates the man who fears he has become nonsupporting. The supplying of artificial limbs is a very serious problem. In cases where the eyeball has been destroyed, an artificial eye is fitted without delay, and these eyes are being made so perfectly that it is difficult to distinguish them from normal ones.[7]

Particular aptitudes and social circumstances fit blinded men for certain occupations. "General professional reeducation" is the term applied to the instruction that is given to disabled men in training them for earning a living. The State owes a soldier more than a pension in payment of its indebtedness to him—it must help him to find employment. Modern trench-warfare results in a large number of head injuries, because the head is more constantly exposed than the body, and, consequently, there is a large number of partially or totally blind among the wounded.[8]

France called four million men to the colors, and about two thousand of them have been made totally blind. There are two large institutions for their reeducation. One is the "Maison de Convalescence" at Renilly, the other is "Le Phare de France", in the Rue Daru, Paris. The former was opened March 29, 1915. The minister of the interior erected it, but, it was partly under the guidance of the minister of war, because undischarged soldiers are received there.

Two and one-half francs (48.3 cents) is contributed by the State per man per day and the hospital-budget makes up the difference from a benevolent fund furnished by a society known as "L'enore des Amis Soldats Aveugles". This society recently received a gift of $19,300 from South America. This organization presents to every man leaving the institution an outfit of tools for his new trade and also gives him a supply of raw material to start with, until he is able to purchase material with money brought in by his handicraft. It gives the man a "trousseau" or outfit of clothing, and presents him with 500 francs ($96.50) should he get married, while all his wedding-guests are treated to cigars and coffee. Up to June, 1917, more than thirty men have married from the school. Raw materials are bought by the society, and it resells them at cost-price to the men after they are able to buy for themselves. Thus, for instance, it has just bought $58,398 worth of brush fiber. Indeed, this society really adds the true "milk of human kindness" to the bare essentials provided by the State and this intelligent sympathy reacts upon the men, making them bright and joyous.

More than 233 beds are provided by this institution, while, in addition, it trains men that live in the neighborhood, so that, altogether, it cares for about 500 men. Over 300 have left it after being trained to make a living. The subjects taught are brush-making, basket-making, typewriting, piano-tuning, upholstery, fringe-making, cooperage, massage, and other occupations.[9]

Miss Winifred Holt, an American, who

6. American Journal of Care for Cripples, 5:8, No. 1.
7. Journal of American Medical Association, p. 361, Feb. 9, 1918.
8. American Journal of Care for Cripples, 5:19, No. 1.
9. Monthly Review of Bureau of Labor Statistics, Vol. 4, June, 1917.

devoted herself to the care of the blind in the United States, founded the other hospital, the Phare de France, on August 18, 1916. This Paris "Lighthouse" is established in a large and pleasant dwelling, in the fashionable quarter of Paris. An influential committee in America supplies funds for maintaining this institution.

For some years previous to the war, a good monk—the Abbé Moreau—had trained blind workers in an old church in Bordeaux. He taught the men to cane chairs, and he was so devoted to his pupils that he sold everything he had, including even a highly prized collection of butterflies, in order to meet the expenses of the school. Miss Holt discovered this good monk and resolved to give him assistance. She sent to New York for funds and requested him to accommodate the men blinded in battle. Enough funds were sent to buy an old chateau surrounded by beautiful grounds rich in yew-trees, old rose-bushes, with a statue of Jeanne de'Arc in the midst of the flowers. The Abbé changed the name of his establishment to "The Bordeaux Lighthouse". In addition to resident pupils, day students follow the entire day's program, and a few men attend special classes.

This work, with its modest beginning at Bordeaux, spread rapidly. Home-teaching and classes at Hotel de Crillon in Paris followed and a gift of 30,000 francs was given to other organizations working in the interest of the blind. The work progressed and then the government offered the Phare de France, which is rented from the Pope, making but one stipulation, namely, that English and Belgian soldiers be accepted, as well as the French.

The president of the Republic, the American ambassador, and the ministers of war, of marine, of the interior, and of public instruction accorded the work their patronage. Among the subjects taught at the Phare are braille, typewriting, and stenography. The blind are so interested in this commercial course that they would prefer to miss a theater to missing a lesson.

There is also an arts and crafts school, and it is very popular. A stable was converted into a workshop, where the men weave, operate knitting-machines, and a printing-press. Clay modeling is a favorite subject, because it educates the sense of touch. The men have modeled beautiful pottery and statues. Every morning the men get gymnastic training. Various entertainments are given at the Theater of France, and the men are offered some of the best seats every week.

Very often a man's confidence is won through games and amusements. Miss Holt tells the following story: Recently I was taken by an American ambulance-doctor to a patient from Verdun. He had lost his sight, his right arm, and was otherwise wounded. All I could do was, to talk to him, at the doctor's request, and to give him an idea of light through work. On my second visit, I introduced him to an American checkerboard adapted for the blind. He consented to play with me, and he finally beat me in a game. He was so pleased at this success that all his boyish sense of fun returned, and he giggled with glee until the nurse was afraid he might reopen his wounds. He now is learning braille and a few other simple subjects and is a regular pupil of our home-teacher.

The head of the Lighthouse staff is a French gentlewoman. Five of the professors are, themselves, blind. Two teachers of music were blinded at Arras. The rest of the teaching force can see. Two French physicians give the men necessary physical attention. The home-teachers visit the homes and hospitals when the doctors report the news about additional blinded heroes, and they first cheer them up, then persuade them to come to Paris for training. One man whom the nurses found crying like a child actually laughed at the idea of his being able to become a wage-earner and to marry the girl who had remained faithful to him. One man returned to his retail business after six months of training and is able to write his letters and keep his accounts. Another man became an expert machine-knitter after two months' training.[10]

A number of blinded men are employed on farms—milking cows, digging potatoes and beets, and so on.[11] One man wrote to Miss Holt as follows: "I should like to be a poet, to be able to sing to you of my rebirth; but, alas, I am neither poet nor writer, only a peasant. Thanks to you and the good teachers about you, I can say, without exaggeration, that I feel glowing within me

10. Survey, p. 43, Oct. 14, 1916.

11. Journal of American Medical Association, p. 227, Jan. 27, 1917.

a light that throws its rays into the closed chamber of a spirit that I believed would forever live in darkness. At the Lighthouse of France, I have found the light."

That Miss Holt is held in high esteem, is demonstrated by the fact that the president of the Republic visited her and gave her permission to take into her hospital any blinded soldiers she may find in any hospital. Visitors leave the Phare feeling that they have been to a party at a social center, rather than at a school for the blind.

The pupils bring in their friends to tea as they would in their own homes. The visitors are given a hearty welcome and spend a merry hour listening to music and laughter. The pleasant atmosphere is due to "Miss Holt's long experience with the blind and to her own sunny and energetic temperament, which diffuses cheerfulness and vivacity wherever she passes."

The work of Miss Holt supplies a need nowhere else met in France, whereby the blind that require it are taught to be occupied in a sort of leisured way, rather than being trained to a workingman's environment. A wider range of subjects is taught, and some of them partake of an unusually artistic nature for such an institution; as, for example, artistic pottery is being stenciled by the blind, and mathematics, music, foreign languages, and weaving on elaborate looms are part of the instruction.[12]

The total number of soldiers blinded in war in France, up to 1916, is given as 3,000. Their pension is 1,200 francs a year, while, by working, they can earn 5, 6 or even 8 francs a day. Baskets are being made in vast quantities and varieties, to supply the demand; for, previously, the basket-ware came from Germany. The making of brushes is divided among specialists, each of whom attends to a particular part. This is a distinct advantage to the blind, because each one masters his part of the brushmaking quickly. In the ironworks industry of one of the shops, 25,000 parts of automobiles are being made by these previously helpless men.[13]

[*To be continued.*]

The Offending Organism in Diabetes Mellitus

Preliminary Communication

By WM. L. FRAZIER, M. D., Boise, Idaho

EDITORIAL COMMENT:—Is Diabetes mellitus a bacterial disease, due to a definite diabetes microorganism? Doctor Frazier believes that it is, and that he has discovered the specific virus. While his chain of evidence is not yet complete, the data presented here are interesting and merit our attention.

FOR a number of centuries, the clinical picture of diabetes has been rather well set forth. Arethæus, in the first century, described its clinical symptoms almost perfectly. In the seventeenth century, attention was called to the peculiar odor and sweet taste of the urine. A few decades later, it was discovered that, if diabetic urine was evaporated down, it contained much more solid material than normal urine. For a time, this solid material was thought to be only an increase in the amount of salts normally found in the urine. Shortly after, this residue was analyzed and determined to be sugar. In another century or so, it was determined that the form of sugar in diabetic urine was grape-sugar. Still later, it was shown conclusively that diabetic serum contained sugar. Later still, it was demonstrated that normal blood contained grape-sugar, but, that blood of diabetics contained a greater amount of sugar than does normal blood. Still later, Bernard showed the origin of the blood-sugar to be derived from the ingested carbohydrates; he also definitely linked diabetes and carbohydrate-metabolism.

Recently, there has been much work done analyzing diabetic blood, comparing

12. Survey, p. 43, Oct. 4, 1916.
13. Medical Record, p. 527, Mar. 23, 1918.

it and normal blood, and the relation of these amounts to the amount of sugar in the urine. Also much conjecture has been advanced as to the oxidation of the normal amount of sugar in the blood and the lack of oxidation of diabetic amounts.

With each change in theory as to the causes of diabetes, the treatment has changed, although for the most part it has, during the past century, been directed toward the clearing up of the one symptom, the removal of sugar from the urine. This reduction has been effected by several ways, all of which, though, are detrimental and not of any benefit to the patient. These methods include violent muscular exercise, neutralizing the adrenal output, neutralizing the thyroid secretion, the injection of foreign protein, and by starvation.

In the year 1911, I drew the conclusion that diabetes is an infectious disease. I came to this conclusion, because I had observed so many families presenting more than one case and also because it so frequently occurred in people associated with, yet, not related to diabetics.

Having decided that diabetes is produced by some certain organism, I set forth to isolate the offender. Not knowing where to look, a systematic search instituted consumed many months before finally proving successful. At last, though, the organism has been isolated in my laboratory, and it is proper to say that most of the work, and the most efficient portion of it, has been done by my very skilful laboratory helper, Miss Anna Penrod. Because of her efficient work in the isolation of this organism, I am giving it the name of the Frazier-Penrod bacillus.

The Frazier-Penrod Bacillus of Diabetes

The bacillus which I believe to be the organism that produces diabetes is found in the blood, both within and without the red cells; though only about 10 percent are found out of the cells.

By making a smear on a glass slide, just as you would in examining for malaria, and staining it with the Romanowski solution, the bacilli are easily found. They are rather heavy rod-shaped, though some are much smaller than others. In many of the red cells, they can be seen in the process of division. We have been able to find them in every one of the many cases of diabetes to which we have had access since we first identified the germ. We have also been able to find them in two patients who had no glycosuria, but, who showed the general symptoms of diabetes (or, more properly said, the symptoms of acidosis); thereby leading me to believe that one may have the infection long before the presence of sugar in the urine is detectable, the anabolic handling of carbohydrates not being sufficiently interfered with to cause it to be eliminated as sugar. These two persons had been intimately associated with other diabetics.

We have been able to isolate the bacillus by growing it in bouillon and transferring it onto agar. (For these cultures, methylene-blue is the better stain.) It grows prolificly in bouillon. We have grown bouillon-cultures in many cases without contamination. It also grows well on nutrient agar, is acid-forming, and does not ferment glucose. Other characteristics of the Frazier-Penrod bacillus are: it is motile, Gram-positive, not gas-forming, grows in chains of two and up to many (ten or twelve), and is spore-forming.

The most probable mode of infection is through the bedbug, possibly through the mosquito, flea or some other insect.

Now, that the offending organism has been found and isolated, there is certain to be a revolution in the treatment of diabetes. However, I would warn against impulsively adopted measures. There already have been too many ineffective cures thrown upon the diabetics. They are drowning people who will grab at a straw. Let us not throw them straws to grab and go under with when they can be offered a lifeboat.

Finally, my reasons for believing this bacillus to be the causative organism of diabetes may be summarized as follows:

The Frazier-Penrod bacillus is found in the blood of all diabetics that I have examined—these being fifty-nine. In culture-characteristics, it does not conform to any other organism described by any bacteriologist. In relieving the diabetic of this organism, the sugar, neuritis, thirst, polyuria, and all other diabetes symptoms disappear, in some cases, the subjects having been free of these symptoms for over four years.

Other culture, inoculation, and treatment tests are being carried out and will be published later.

The Dakin Chlorine-Carrying Antiseptics*

By ALFRED S. BURDICK, M. D., Chicago, Illinois

THE Great World War, in which our country is now taking an active part, has brought to the medical, chemical, and pharmaceutical professions problems of a magnitude and importance transcending any which these professions have been called upon to deal with in modern times. It is much to the credit of modern science that it has been able to solve these problems as well as it has. In spite of the fact that more than twenty million men have been called into military service, many of them being compelled to live under the worst possible sanitary conditions—conditions which only a few years ago would inevitably have caused almost unbelievable loss and suffering, as a consequence of infection following the injuries of war—the death rate, apart from deaths directly due to wounds, has been almost unbelievably small. There have occurred no great epidemics in Europe. Typhoid fever has almost entirely disappeared. In western Europe, there has been no cholera and no typhus, although these have prevailed to some extent in eastern Europe. The recoveries from wounds have been fully ninety percent.

The problems with which the medical profession has to struggle have been, in many respects, new problems, largely determined by new methods of warfare, particularly by the life in the trenches and the character of the *milieu* in which the contest is principally waged. The soil of northern France is one of the most fertile in Europe, this fertility depending very largely upon hundreds of years of intensive fertilizing. The ground is saturated with the fecal deposits of animals and before the war had raged for many months it was further contaminated by the excretions of millions of soldiers and by their dead bodies. Early in the war, as a consequence of these conditions, the problem of wound infection and of diseases growing out of this condition, plus insect contamination, exposure, and exhaustion were the most in evidence. Then a new crop of diseases appeared, including such little-known or uncommon conditions as trench-fever, trench-nephritis, tetanus- and gas-bacillus infections. In most of these, wound infection was the fundamental cause.

The importance of combating wound infection, therefore, was fully appreciated by surgeons at the front early in the war. It was in response to this demand that the Rockefeller Institute, of New York, sent a group of investigators to France to study the problem. This party was headed by Dr. Alexis Carrel. Associated with him, but, at that time, less known to the scientific world, was a chemist, Dr. Henry D. Dakin, of the Herter Laboratory. At this time, practically every wound was infected by the time it reached the surgeon, and in many instances was badly infected—this as a consequence of the fact that the wounded were left on the field for hours and sometimes for days before surgical attention could be given them. Consequently, the mortality among the wounded was very high.

This problem was attacked, from the surgical side, by Doctor Carrel, while the chemical phase was handled by Doctor Dakin. The result of the joint work of these two men was, first, the development of a new method of treating infected wounds, the contribution of Doctor Carrel, and, second, the development of a new series of antiseptics, for which the world is indebted principally to Doctor Dakin.

The Carrel Method of Wound Treatment

Prior to Carrel's work in this field, it had become almost an axiom that drainage must be provided for every wound. The novel feature of the Carrel method is, the rejection of this doctrine. The wounds which Carrel was called upon to treat were very largely deep, jagged ones, filled with dead and dying tissue, soaked in wound secretions, and often filled with dirt. To sterilize them by the old methods, was impossible. Thus it was that Carrel conceived the idea of making every wound a well and, instead of draining it, to keep it constantly filled with an antiseptic fluid. This he accomplished by means of a system of intermittent irrigation. From a reservoir, an antiseptic fluid is conducted

*Read at a meeting of The Prescott Club, University of Michigan: June, 1918.

through minute tubes into all parts of the wound. These tubes are surrounded by gauze, so as to keep the wound open and permit of the free access of the fluid to its most remote corners. This fluid is renewed at frequent intervals, to assure constant germicidal action.

The most difficult problem was, to find an antiseptic that would be germicidal enough to effect the destruction of the microorganisms and at the same time not be harmful to the tissues or produce poisonous results upon absorption.

The task of finding such an antiseptic was assigned to Doctor Dakin.

The Choice of an Antiseptic

Doctor Dakin investigated a very large number of antiseptics, finally settling upon the hypochlorites as best suited to meet the indications laid down by Doctor Carrel.

The first result of these studies was, the introduction of a solution of sodium hypochlorite—which, as produced by various formulas, has come to be known as Dakin's solution. This solution, as first employed, consisted of a 0.5- or 0.6-percent solution of sodium hypochlorite, prepared by dissolving a mixture of sodium carbonate and a high-grade quality of ordinary chlorinated lime in water, agitating thoroughly, syphoning off the clear liquor, and lastly adding boric acid to the clear filtrate. At about the same time, Lorraine Smith, of the University of Edinburgh, introduced a somewhat similar solution, which he called eusol. This, however, consisted of equal parts of bleaching-powder and boric acid alone, dissolved in water, and finished by filtering.

Since the introduction of these original solutions, many changes have been made in the composition of "Dakin's solution". The formulas suggested are too numerous to mention here, while the methods of preparation are equally varied. The solution most in vogue at the present time is Daufresne's modification of the Dakin solution. Without attempting to go into details, I would say that this is prepared by treating chlorinated lime with sodium carbonate, as described by Dakin, neutralizing, however, with sodium bicarbonate instead of with boric acid. By Daufresne's process, no caustic soda is formed, the solution containing, it is alleged, a small amount of carbonic acid, which attaches itself feebly to the lime as soon as the two solutions come in contact and decomposition occurs.

With a solution made in this way, wound irritation is much less likely to occur than with the older forms. However, to avoid irritation, the solution must not contain to exceed 0.45 or 0.5 percent of sodium hypochlorite. The method of manufacture of Dakin's solution by the Daufresne method is somewhat involved and requires considerable technical care. That it is germicidally effective, there can be no doubt. It is particularly important that the solution should be neutral or at least as nearly so as possible. Thus, in his "Handbook of Antiseptic," Dakin says:

"It is most important to test the solution for free alkali by adding a trace of solid phenolphthalein to a little of it. In case a red color develops, indicating free alkali, the solution may still be used if it is previously neutralized either by passing carbon dioxide through the solution or by adding a little boric acid, until the alkaline reaction is abolished. But, in making further quantities of the solution, using the same sample of bleaching-powder, alkalinity may be avoided by reducing the quantity of sodium carbonate and correspondingly increasing the bicarbonate.

"Sodium hypochlorite, whether prepared according to the preceding formulas or according to other methods that will occur to the chemist, e. g., from salt by electrolysis (l. c., p. 116) or from liquified chlorine gas, when used in neutral solution at 0.5-percent concentration, is found to be a valuable antiseptic for the treatment of infected wounds. Its action is extremely rapid and then ceases as soon as all the hypochlorite is decomposed; hence, the methods for using the solution efficiently must be provided for its frequent renewal."

The advantages of sodium hypochlorite, in solution, briefly are as follows: It acts with exceeding rapidity. When used in proper solution, it does not irritate the tissues. It is only slightly toxic. It causes rapid dissolution of necrotic tissue—a fact of considerable importance in treating badly infected war-wounds. It is admirably adapted for the intermittent instillation method of Carrel.

The disadvantages of the hypochlorite solution are: (1) The exceeding rapidity of its action, the germicidal power being

rapidly exhausted; (2) The fact that it can be employed only in weak solution, the limit of strength being 0.5 percent. Used in greater concentration, it causes irritation, particularly of the skin. (3) Its solutions are relatively unstable. While improved methods of manufacture have been introduced, nevertheless, hypochlorite solutions generally are quickly decomposed in the presence of light, although more slowly when kept in the dark.

On account of the instability of sodium-hypochlorite solutions, Dakin began to go more deeply into the problem of the chlorine-carrying antiseptics while he was in France, associated with Carrel. As a result, he arrived at the conclusion that the antiseptic action of the hypochlorites is dependent, not so much upon free chlorine or hypochlorous acid, as upon the formation, when in contact with proteins, of combinations of nitrogen and chlorine of the general formula of NCl. And this led him to a study of a series of synthetic substances carrying this molecule (NCl) which were first described by Chattoway, about thirty years ago, under the name chloramines.

The Chloramine Compounds

The first of these taken up by Doctor Dakin was, toluene-para-sodium-sulphochloramide, described by him under the name of chloramine-T. This chemical was introduced in America by The Abbott Laboratories under the name of chlorazene. It is a crystalline substance possessed of a faint chlorous odor and a slightly bitter taste. It is very freely soluble in water, a saturated solution at room-temperature containing about 15 percent. It is a synthetic coaltar derivative, originally made from toluol, while commercially it is prepared from para-toluene-sulphochloride, a by-product in the manufacture of saccharin.

Chlorazene (as I shall call this compound hereafter) has substantially the same germicidal power, weight for weight, as sodium hypochlorite. It is a matter of interest, in view of the fact that it contains only half as much chlorine as does sodium hypochlorite, that, molecule for molecule, chlorazene is four times as germicidal as the hypochlorite. This peculiar phenomenon is explained, according to Dakin "by the fact that the chlorine is already linked to nitrogen" in the chlorazene, while the linking with the hypochlorite takes place only after it comes in contact with the wound.

Advantages of Chlorazene

Chlorazene possesses certain very marked advantages, which may be enumerated as follows:

1. It is decidedly less irritating than the hypochlorites. The latter, as already explained, can be advantageously used in the treatment of wounds in a concentration of not to exceed 0.5 percent, while chlorazene can be employed in much stronger solution, and is largely employed in a strength of 1 percent, 2 percent; and even as high as 4- and 5-percent solutions have been used in cases of emergency. Under ordinary circumstances, however, a solution ranging in strength from 1 : 1000 to 1 :100 ordinarily covers the indications. This, it will be seen, gives a wide range of concentration, thus making it available for the treatment of all classes of wounds.

2. Chlorazene is very stable, both in the form of powder and tablets. In solution, it is decomposed in the presence of bright light; if kept in the dark, though, solutions may be preserved much longer than the corresponding hypochlorite solutions. However, in powder or tablet form, the substance may be kept indefinitely in any climate and under practically all conditions without likelihood of any noteworthy change taking place.

3. The action of chlorazene is less explosive and more prolonged than that of the hypochlorites. This renders it more suited to general use, as an antiseptic, than sodium hypochlorite, which latter, while its action is very powerful, exhausts its germicidal virtues very quickly. Consequently, applications of chlorazene may be made at much less frequent intervals than with the corresponding hypochlorite.

4. As Dakin points out in his "Handbook," chlorazene is less irritant to tissues than are hypochlorite solutions. This is important, because, as Dakin says, "the ideal surgical antiseptic should effect complete sterilization within its sphere of action without causing any damage to animal cells." Furthermore, the chlorazene is virtually nontoxic. There is no danger of poisoning from absorption, while, if any of the solution should inadvertently be swallowed, no harm other than slight irri-

tation of the stomach is likely to supervene.

Having a very personal interest in chlorazene, I have on several occasions asked Doctor Dakin in what respects the hypochlorite is superior, and in what the chlorazene is the superior antiseptic. In each instance, he has stated that in every way he considers chlorazene superior to the hypochlorite, except in this one: The hypochlorite exerts a most remarkable proteolytic action, meaning, that it destroys dead animal tissue very rapidly. This is of great importance when the wound treated is one presenting a large amount of necrotic tissue, thus making it peculiarly valuable in the treatment by the Carrel method. In every other respect, the chlorazene is the superior antiseptic.

In civil practice, chlorazene is the water-soluble antiseptic and germicide of choice. In civil practice, we rarely meet the profoundly devitalized wounds, with enormous amounts of secretion, such as were met with early in the war. As a matter of fact, these wounds are now seen at the front much less frequently than they were early in the war, because of the improved methods of handling the wounded, so that now, as a rule, they come into the surgeon's hands within a few hours after the wounds are inflicted.

A preparation of chlorazene that is warmly recommended by Carrel, and which he is using extensively, is a paste containing 1 percent of chlorazene in a base of sodium stearate. It is offered to the profession by The Abbott Laboratories under the name of chlorazene surgical cream. This paste is employed by Carrel as an application to wounds that are not intensely infected or in which the infectious organisms have been largely destroyed by the irrigation method, so as to keep the part in an aseptic state. It is now his practice to close up many wounds of this character after application of the paste to their interior.

Chlorazene has been placed on the market in a number of ways: in the form of crystals and of tablets, as chlorazene surgical cream, and as chlorazene dusting powder.

Dichloramine-T

About a year ago, Dakin and his associate of the Herter Laboratory, Doctor Dunham, introduced to the profession another chloramine, under the name of dichloramine-T. This compound contains a larger percentage of chlorine than any of the antiseptics heretofore introduced, to wit, 29.5 percent. Dichloramine-T is the abbreviated name of toluene-para-sulphon-dichloramide. It is a yellowish-white crystalline substance, of sweetish, rather pungent chlorous odor. The appearance of the salt differs somewhat according to the method employed in its manufacture. Thus, when it is crystallized out of chloroform, the crystals are quite large and of a decidedly yellowish cast. As ordinarily manufactured, it is microcrystalline and has only a faintly yellowish tinge. It is insoluble in water, but, soluble in certain oils.

A large amount of work has been done by Dakin and Dunham, as well as others, on the problem of solvents for dichloramine-T, which, on account of its exceedingly powerful germicidal activity (in which respect it seems to be far more potent than any germicide heretofore introduced), promises to prove one of the most important contributions to the list of antiseptics introduced as a consequence of the war.

The first solvent for chloramine-T introduced was chlorinated eucalyptol, the eucalyptol being chlorinated for the purpose of insuring a reasonable permanency of the solution. As a diluent, a chlorinated paraffin oil was employed. These substances were both introduced by Doctor Dakin. An improved method of chlorinating the eucalyptol has been described by Lewis and Krauss, of The Phipps Institute.

The most serious objection to the eucalyptol as a solvent was the readiness with which solutions of dichloramine-T in this preparation undergo decomposition. Such solutions are extremely sensitive to light, heat, moisture, and various organic substances (alcohol, for instance), and when as a result of adverse conditions the dichloramine-T is decomposed, with precipitation of an amide, there is formed free hydrochloric acid, with, consequently, wound irritation. It was found, however, that stock solutions of dichloramine-T in eucalyptol can be made up, and that these will preserve their activity and not undergo decomposition for about a month if kept under favorable conditions. Further, when

the chlorinated paraffin oil is added as a diluent, the solution will decompose in three or four days. Another objection to the use of the eucalyptol was found to be its pungency, which made it disagreeable in nasopharyngeal work, while, also, in itself, it causes irritation in some sensitive skins.

Quite recently, Doctors Dakin and Dunham have introduced a new solvent for dichloramine-T which seems to be the ideal solvent. This substance is a chlorinated hard paraffin wax of a melting-point of 50° C. or higher. (This is the ordinary low-melting-point paraffin wax of commerce.) When a stream of chlorine gas has been passed through this melted wax at a temperature of 120° to 140° C., the product becomes a straw-colored, odorless, tasteless liquid, which in itself, is nonirritant to wounds. In this process, it takes up about 30 percent of chlorine gas, and the resultant liquid has a specific gravity, on an average of 1.040. This new solvent Doctor Dakin has called chlorcosane, and it is marketed under this name by The Abbott Laboratories.

Solutions of dichloramine-T in chlorcosane are quite permanent; that is to say, under favorable conditions, they will keep for from one to two months without showing notable decomposition; also, they are much less likely to produce irritation than will the eucalyptol solution.

Heretofore solutions of antiseptics in oil have not found favor with surgeons, because it has been believed that intimate contact of the antiseptic with the infected matter is hindered by the oily coating. According to Dakin, however, this objection does not pertain to the dichloramine-T oil-solutions, since "the partition-coefficient between the oil and the water is such that a certain amount of the dichloramine-T passes into the water and there exerts its germicidal action." In other words, the oil simply serves as a reservoir from which the antiseptic is given up gradually to the tissues.

Dichloramine-T has already been very extensively used both in civil and in military practice. In this country, Dr. W. Estell Lee, of the Pennsylvania Hospital of Philadelphia, has employed it in more than ten thousand cases, with results that, as reported, certainly are startling. It has also been used in several thousand cases, in France, by Captain Joshua Sweet, with results equally satisfactory, and in some respects even more surprising.

As stated, dichloramine-T is not water-soluble, and, hence, must be used solely in oil solution. For the treatment of wounds, it is usually sprayed upon the wound with an atomizer, although a medicine-dropper, swab or grooved director may be employed to bring it into every part of the wound. In the case of deep wounds, the solution, if desired, may be poured. When the antiseptic can thus be brought in contact with the part, it seems to destroy the microorganisms (or at least to check their multiplication) almost immediately. I have seen many foul, angry, inflamed, and suppurating wounds treated with this germicidal agent, and the startling thing about them is that they virtually always seem to be clean within forty-eight hours.

Dunham has done a good deal of work with dichloramine-T in meningococcus-carriers. It seems to have the power of destroying the menigococcus-organism in the nose and throat. As doubtless you know, meningitis is now believed to be transmitted by the nasal secretions. It is rather too early to give conclusions as to the exact usefulness of this agent in this field. The evidence would seem to indicate that it will be one of the most potent remedies at our disposal for sterilizing the nasopharyngeal passages. Flexner, of the Rockefeller Institute, has reported favorably upon it.

Recent reports by Woolley, and by McCord, Friedlænder and Walker, giving experiences at army camps, have established the great prophylactic value of dichloramine-T, not only against meningitis, but, also, for diphtheria, measles, and pneumonia. At Camp Sherman, diphtheria carriers were treated with gargles made up of a 0.25-percent solution of chlorazene and followed by spraying with dichloramine-T in chlorcosane. Excellent results were obtained from this treatment.

Halazone for Sterilizing Drinking Water

I will refer only briefly to halazone, a substance which also belongs to the chloramine group, and which was introduced by Dakin for sterilizing small quantities of water. On a large scale, chlorine or chlorinated lime are used in many cities for sterilizing their drinking-water. The halazone has the advantage of affording a stable

form of chlorine, in tablet form. Chemically, it is para-sulphon-dichloramino-benzoic acid. In other words, to the chloramine, a benzoic-acid molecule has been added. In the tablet, a small amount of sodium chloride and sodium carbonate or sodium borate is added. When the tablet is dissolved in water, it decomposes, with the formation of free chlorine. One tablet, containing 4 milligrams (1-16 grain), will sterilize one quart of water. Halazone is effective against the typhoid, cholera, dysentery, and other water-borne organisms in a concentration of 1 part in 250,000. Water thus treated is virtually free from taste and odor.

Germicidal Power of the Chloramines

There are so many ways of determining the germicidal power of antiseptics that the man who attempts to study this side of the problem in a cursory way is likely to get into deep water. Apparently no two men agree as to standards to be employed. It is one thing to destroy organisms in the test tube and quite another thing to destroy them in a wound, a felon, a carbuncle or the throat. Furthermore, germicides are affected by temperature; the higher the temperature, for instance, the more readily they act. The same is true in the body as outside of it. Also, much depends upon the period of contact, the frequency of application, the presence or absence of coagulant action, the presence of blood or of considerable secretion or of necrotic tissue. For a very interesting study of the problem, I would refer you to Dakin and Dunham's "Handbook of Antiseptics," published by Macmillan.

The simplest method of testing germicidal potency, and one which has long been widely in use, is, to determine the phenol-coefficient (that is, the relative germicidal power of the antiseptic to be tested) upon microorganisms (usually the bacillus typhosus) for a certain time-period, or, about 2 1-2 minutes, tested in a standard. This method of testing, while it has been endorsed by the government, through the Hygienic Laboratory of the Public Health Service, is being much criticized. According to this method, however, chlorazene has been found to have a phenol-coefficient of about 50; in other words, weight for weight, it is about fifty times as germicidal as carbolic acid. This would mean that a 5-percent solution of phenol would be equal in antiseptic power to about a 1 : 1000 solution of chlorazene.

The Hygienic Laboratory method is based upon a short unit of time. Dakin and Dunham believe that the only satisfactory way to follow the speed of disinfection is, to determine the progressive change in the number of bacteria in a suitable mixture after varying periods of time. They have conducted a series of experiments in this manner, using as a culture-medium a mixture of equal parts of blood-serum and muscle-extract; this being selected in order to simulate in a convenient way the chemical character of the wound secretion. This medium is inoculated with staphylococcus aureus. Then the total number of organisms present in the mixture is determined. Finally, the antiseptic is added, and the length of time required to destroy the contained organisms is determined by tests at different intervals.

Quite a series of experiments was conducted in this way, with a variety of antiseptics. It is interesting to learn that, under the same conditions, chlorazene is distinctly more effective than an approximately equivalent amount of chlorine in the form of sodium hypochlorite or hypochlorous acid. More powerful still is dichloramine-T in oil—in fact, the latter was found to be incomparably more powerful than any other germicide thus far available.

The most startling facts were revealed by a comparison of the chlorine-carrying antiseptics with the standard germicides, so called, such as mercuric chloride, phenol, and the silver salts. The results obtained are succinctly reported in a paper by Dr. E. K. Dunham, contributed to *Surgery, Gynecology, and Obstetrics.*

Doctor Dunham states that chlorazene will do in five minutes and dichloramine-T in one-half minute what mercuric bichloride will not do in three hours or carbolic acid in twenty-four hours. Both chlorazene and dichloramine-T are many times as germicidal as silver nitrate, argyrol, the cresols, hydrogen peroxide, to mention only a few.

A 2-percent solution of phenol failed to sterilize the mixture in twenty-four hours. Mercuric chloride (1 : 1000) accomplished the same degree of disinfection in three hours and completely sterilized in seven. Acriflavine, a dye recently introduced as an antiseptic (3 : 1000) killed all the bacteria in about nine hours. In very sharp

contrast to these antiseptics, the members of the chlorine group were extremely rapid in their action. Sodium-hypochlorite (Dakin's solution) of 0.5-percent strength, completely sterilized in four minutes; chlorazene (2-percent), in five minutes; dichloramine-T (2-percent in oil solution), in less than thirty seconds.

The Pharmacy of the Chloramines

The pharmacy of the chloramines is now being studied; however, much work remains to be done. Perhaps it is sufficient at this time to emphasize the desirability of combining chlorazene and dichloramine-T with other substances just as little as possible. Both are extremely reactive and enter into combination quickly with most inorganic and many organic substances. Chlorazene, for instance, is incompatible with all acids, with alcohol, and with most metallic substances. It tarnishes most metals, although slowly. It acts quite rapidly upon iron and copper, slowly upon silver, and only slightly upon tin.

A 1-2-percent solution of chlorazene containing 5 percent of alcohol, lost 2 percent of its strength in forty-eight hours, and about half its strength in one month. A mixture containing chlorazene, a little menthol, and 0.5 percent of alcohol lost only about 5 percent of its strength in three months. A solution containing 1 percent of sodium bicarbonate remained unchanged after three months. A solution containing only a little cinnamon-water lost about 8 percent in three months. As a rule, the percentage-content of chlorazene was not affected by saccharin, and only slightly by cinnamon-water, mint-water, and other flavors. It became decomposed in the presence of tragacanth, while glycerine caused very rapid decomposition. A mixture containing alcohol, soap, and distilled water lost all of its strength within a few days.

In solid form, combinations containing calcium carbonate, borax, sodium bicarbonate, magnesium carbonate, zinc stearate, and milk-sugar, remained fairly permanent. The addition of soap caused rapid decomposition.

Dichloramine-T is even more reactive. There are only a few substances with which it can be combined. As already stated, this subject now is being closely studied, and a full report of this work will be published at some subsequent time.

The Treatment of Chronic Diseases

Diseases of the Nervous System

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Continued from September issue, page 680

Epilepsy

WHILE it is extremely doubtful, in my opinion, whether epilepsy ever is purely reflex in character—that is to say, the sheer result of cerebral reaction to a peripheral point of irritation—yet, it unquestionably is true that epilepsy frequently is aggravated by such peripheral conditions; and, what is more to the point, the deficient nerve-force of the epileptic often is depleted by the continual drainage of nervous energy at peripheral places of leakage. Hence, one of the first cares of the physician, in treating epilepsy, should be, to seek out and remove every such source either of excessive irritation or of nerve depletion.

The most common and fruitful sources of peripheral aggravation are, in order of their frequency, the gastrointestinal tract, the nasal passages, and the eyes. Thorough and exhaustive examination, therefore, should be made of the entire body of the patient, from head to foot, for any possible focus of reflex disturbance, with special reference to the three localities mentioned; bearing in mind that very slight peripheral irritations that in the otherwise healthy person would cause no disturbance may so nag at the deficient nervous system of the epileptic as to precipitate seizures and to prevent possible recovery from the malady.

Thus, the refraction of the eyes should be carefully tested and the most trivial errors properly corrected; the rhinopharyngeal region should be thoroughly inspected for polyps, adenoids, enlarged turbinates, spurs, deflections, sinus inflammation, diseased tonsils, and so forth, and these, if

discovered, should be promptly removed; also, the entire gastrointestinal tract, from the mouth to the anus, should be canvassed for evidence of decayed teeth, gastric hyperacidity, perverted metabolism, constipation, worms, spastic sphincters, colitis, and any other of the thousand and one disorders of function that cause a drain of the nerve-energy, and to the extent that any of them may be present they should receive attention. All of which should be supplemented by a complete urinalysis and an exhaustive examination of the genito-urinary organs, with a similar end in view. Phimosis is a frequent aggravation in boys and a hooded clitoris in girls.

Having cleared out of the way, so far as possible, all of these focal obstacles, the next important step is, to see to it that the patient is put upon a rigidly simple and elementary regimen of hygiene and dietetics. All, or virtually all, epileptics are gourmands, who eat too much and eliminate too little; and in many instances this is a worse factor in the patient's condition than the epilepsy itself. At all events, no epileptic can, possibly, get well under such conditions. There is but one principle upon which to base an epileptic's diet, and that is, to allow only the minimum of food consistent with the maintenance of reasonable nutrition and (in the case of children) growth, and this of the simplest, most easily digested and eliminable kind. It should be a mixed diet, of which the vegetable content should be the predominant element, with plenty of fresh water, a moderate amount of buttermilk, and citrous fruits and juices. Sweets, pastries and other indigestible things, should, of course, be strictly forbidden. Otherwise, the important point is not so much the *quality* as the *quantity* of the food, which, as stated, should be the least amount with which the patient can get along comfortably.

While attention thus is given to the intake, equal care should be exercised as to the elimination. Epileptics almost always are constipated, and, while a proper regulation of their diet will do worlds to correct this baneful condition, it usually is necessary, at least for the first few months of treatment, to institute some active measures to induce free movement of the bowels. In the main, it is better to employ agencies other than drugs, if practicable. Modulated exercise (especially walking), massage of the abdomen, electricity over the bowels, and hydrotherapy, in the form of hot and cold applications to the abdomen are all better than medicines. But, if these can not be systematically carried out, then it is well to give some mild and harmless cathartic that will stimulate the peristalsis of the bowel and at the same time act as an intestinal disinfectant. Perhaps the best combination for such an effect is that of sulphur, phenolphthalein, and a little atropine or strychnine, or both. This may be given in pill form and taken at night, followed in the morning by a laxative saline. Even when physical measures are employed for moving the bowels, it is well to prescribe a little sulphur and phenolphthalein, occasionally, in order to keep the intestinal tract clinically aseptic.

Free excretion of the urine is best stimulated by the plentiful drinking of citrous juices in dilution or potassium citrate in solution.

Solanine Versus Bromine

Concerning the medicinal treatment of epilepsy, I am obliged to take issue with the current teachings. Despite their reiterated recommendation and almost universal employment, I can not subscribe to the greatly overrated value of the bromides in this malady. I do not mean that they never are useful or that they have no place at all in its treatment. But, I am of opinion that the dosing of epileptics with bromides constitutes one of the worst abuses of these much-abused drugs and that, far from being ideal remedies in this disease, they are, by their chemical and pharmacological properties, totally unfitted for the long-continued and massive administration required in the routine treatment of epilepsy. That enormous doses of the bromides, long continued, do lessen the frequency and violence of the seizures, may be conceded; but, at a frightful cost of every other desideratum in the care of the patient—destroying protoplasm, tearing down cortical cells, paralyzing muscle, retarding metabolism and elimination, and drugging the patient into dementia, to say nothing of the minor inconveniences of indigestion and skin eruptions. No one pretends that they cure. The most that is claimed for them is that they reduce the number and severity of the fits which invariably return (usually with increased frequency and violence) as soon as the bromides are withdrawn. I have long ago vir-

tually abandoned the use of the bromides as a routine in epilepsy.

The truth is, of course, that epilepsy is a biological disease, and it, therefore, is extremely doubtful whether any medicine can exercise any curative effect upon it. Still, like many biological disorders, it has, in most individuals, a natural tendency to right itself, or, rather, there is in the patient's constitution a natural tendency to restore the stability of this particular phase of his organization, if only it is given the chance. Part of this chance consists, as we have seen, in removing every source of undue irritation and nerve drainage. This may be regarded as the negative aspect of treatment. The positive side should consist in furnishing the unstable cortex, if such a thing can be done, with just enough sedation to steady, yet, not to inebriate it—certainly, not to tear down its cells and destroy its protoplasm and to bring about all those metabolic disasters that the enormous chemical potential of the bromide salts precipitates.

An ideal cortical sedative for this purpose is to be found in solanine, the active principle of solanum, the root of the potato. This drug is an organic vegetable principle of about one hundred times the pharmacological potency of potassium bromide; hence, to be given in fractional dosage. It produces the same cortical sedation as do the bromides, without any of their evil effects. Given at first in comparatively large doses—3/50 to 3/25 grain—for three or four weeks and then reduced to 1/25 grain three times daily, it rapidly and effectually controls the seizures in even the worst cases of epilepsy, lengthening the intervals and lessening the severity, while at the same time the patient, instead of growing sodden and dopy and suffering from the disagreeable symptoms of "bromism," becomes progressively brighter and better both in health and mentality.

On the ground that epileptics usually are affected by a marked irritability of the intestinal tract, which contributes largely to their nervous instability, it is my practice to give, along with the solanine, another vegetable alkaloid, namely, verbenine, which seems to exert the same kind of sedative influence over the peripheral nerve-cells of the intestines that solanine does over the central cells of the brain. Verbenine may be given in doses of 1/3 or 1/2 grain, twice or thrice daily.

Under this treatment, coupled, of course, with careful attention to the hygiene and diet, as indicated above, fully fifty percent of the cases of epilepsy may be helped —by which is meant that at the end of a period varying from six to twelve months the remedies may be permanently withdrawn, without any return of the seizures. There will be times, of course, when the withdrawal of the solanine will prove to be premature, when the fits will show signs of reappearing. If so, the treatment should promptly be reinstituted for a while. Eventually, however, it may be permanently omitted in a large number of cases.

When Bromides are Useful

In the management of the status epilepticus, though, the bromides have a useful and undeniable place. Here, they should be pushed, in large and frequent doses, giving 15 to 30 grains every two or three hours, reinforced with chloral hydrate in correspondingly large doses. The latter drug may well be administered per rectum, in doses of 30 grains dissolved in half a pint of warm water. As soon as possible, however, this heroic treatment is to be stopped, the milder treatment outlined above being substituted.

There is a sentiment abroad that epileptics are not to be permitted to do any work, physical or mental. I believe this to be a mistake. It undoubtedly is wise to restrict the amount of their effort, physical and mental, well within the limit of fatigue; still, there is no reason, in my judgment, except the esthetic one and the danger of their falling (both of which reasons may easily be forestalled) why the epileptic child or adult should not do a reasonable amount of work or study. Under the bromide-treatment, to be sure, these patients have grown less and less capable of mental effort as the course of their treatment progressed. But, under the treatment here laid down, they become, on the contrary, more and more capacitated for effort, and a judicious amount of it not only is not harmful, but, positively beneficial for them.

Patients that are forewarned, by an aura, of the approach of a seizure frequently can ward it off by inhaling nitrate amyl, or by swallowing a granule containing 1/500 grain, each, of nitroglycerin and atropine. It is well, therefore, that such

patients should carry these remedies with them for emergency use.

Inutility of Decompression-Operations

The problem of brain-surgery in epilepsy is very indeterminate. It has become quite a fad in many quarters to perform decompression-operations in these patients. I have seen a great deal of it done, but, never once have I seen any benefit result from it in genuine epilepsy. In traumatic cases of jacksonian epilepsy, where a focal center of irritation can clearly be diagnosticated, it not only is justifiable, but, obligatory to trephine and remove, if practicable, the source of irritation, whether it be a spica of bone or an adhesion of the subdural membrane or what not; and of this type an epileptoid patient often is entirely relieved of his seizures by surgical intervention. But, in genuine biological epilepsy, where no jacksonian or focal indications can be made out, opening the skull is, in my opinion and experience, a perfectly useless and unwarranted procedure. There is no evidence that epilepsy has any relation whatever to intracranial pressure, consequently no benefit is to be expected from decompression. My conclusion is that surgery should be reserved only for those cases in which it is designed to remove a definite point of irritation—and these are not true epileptic, but, epileptoid cases. The recent fad of operating upon the intestinal tract (Lane's operation) for epilepsy is, in my opinion, useless and unjustifiable.

[*To be continued.*]

The Anatomy and Physiology of the Stomach

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(*Continued from August issue, page 580*)

Physiology. Sensory

AFFERENT impulses from the stomach are, for the most part, excitoreflex, but, some degree of sensibility exists. Hunger, thirst, and sexuality are sometimes grouped as general senses, analogous to the special senses, so called. Hunger is quite directly connected with the emptiness of the stomach; thirst is less directly due to the state of the stomach itself, and its relief not so immediaely consequent upon ingestion. Satiety seems to depend quite directly upon the distention of the gastric rugæ and, hence, is not experienced in gastric dilatation unless an excessive amount is taken. Some individuals, by long repression of appetite, almost lose the experience of hunger. The thermic sense is much less acute in the stomach than in the mouth or even the esophagus—genuinely so, as shown by the tolerance by the stomach, of hot and cold lavage, and not merely apparently, as is the common explanation, on the basis that ingesta rapidly approach the body-temperature during deglutition. The muscular and pressure-sense (or senses?) are not very acute, though subjective complaint of tension and weight is common. Anything approaching tactile sensibility on the part of the stomach is abnormal, but, neurotic persons rather frequently describe scratching sensations and those of movement of contents in a way that suggests accuracy of sensation. Nausea, which may be considered a general sense like hunger and thirst, though commonly experienced as a precursor, false alarm or accompaniment of vomiting and usually discussed as a gastric phenomenon, is really more characteristic of extra-gastric conditions. For instance, it occurs regularly in various lesions of the testicles and ovaries, in certain urinary irritations, in shock, disturbance of equilibrium, and from the use of various drugs acting upon the putative vomiting-center, which is closely connected with that of respiration.

It is of the utmost importance to grasp the fact that gastric pain is not necessarily an abnormality of gastric sensation. In fact, in gastralgias generally, while the existence of an abnormal irritant factor of

some sort is usually to be conceded, the fact that pain is felt is not in itself abnormal. Indeed, if pain did not result from the thermic, mechanic or chemic irritation, we should be justified in considering the afferent nervous mechanism as defective.

Motility

Cannon has shown by means of x-ray investigations that gastric peristalsis is excited by the ingestion of food or drink, developing gradually in degree and rapidity, up to about one marked wave every seven seconds, and gradually declining in force and rapidity toward the close of gastric digestion. Patient auscultation gives very nearly as accurate information as the x-ray and deserves more extensive clinical use. The most absurd blunders in diagnosis and therapy might be avoided by a few minutes' use of the stethoscope.

Care should be taken not to confuse the motor state of the stomach with the results of gastric motion. The seasick patient who replied to the ship-surgeon's remark about his having a weak stomach, "I guess I'm throwing as far as any of them," expressed a physiologic truth often forgotten. A stomach may be strong muscularly and excitable from the standpoint of innervation, and, yet, be unable to overcome the resistance of a tonically contracted, hypertrophic or strictured pylorus. For instance, in hyperchlorhydric ischochymia, the term stagnation is of doubtful propriety, since it suggests a cessation of gastric effort. We, naturally, think of gastric atony as a factor in the production both of dilatation and ptosis, and it certainly is so in general. Yet in individual instances, all sorts of inconsistencies exist in comparing the organic state of the stomach and the functional fluctuations of its secretory and motor phenomena.

Cannon, some years ago, conducted a series of experiments that apparently demonstrated that pyloric relaxation was owing to the reflex from hydrochloric acid; but, this theory has been modified so as to consider the opposite influence of hydrochloric acid on the gastric and the duodenal sides of the pylorus, respectively. Clinically, it should be remembered that, other things being equal, the relaxation of the pylorus is inverse to the amount of hydrochloric acid; contents present containing little or no free hydrochloric acid slipping quickly through the pylorus, so that sometimes the attempted extraction of chyme an hour after a test breakfast reveals that the stomach is empty, while, on the other hand, hyperchlorhydria is characteristically though not invariably attended by ischochymia. Any hard substance, insufficiently masticated food, indigestible ingredients of food, such as pits and stones of fruit or actual foreign bodies, on reaching the pylorus, tend to cause its contraction and to delay the escape of themselves and of the contents generally.

Without proposing a transference of cardiac nomenclature to the stomach, it is well to remember that the terms hypertrophy, dilatation, valvular leakage, valvular obstruction, the conception of compensation or lack of compensation of valvular defects, the absence of direct relation between rapidity and excitability of heart action, with blood pressure and circulatory power, afford a very good basis for conceiving of the motor phenomena of the stomach, for the reason that the logic of cardiac conditions has been very well instilled into our minds, while it seems almost as if our conceptions of the motor physiology of the stomach have been inherently wrong and superficial.

The Gastric Sphincters

While there is a decided difference between a true valve, such as occurs in the heart and a sphincter, as they guard the two orifices of the stomach, the venter, with its pylorus and cardia, presents a marked analogy to the ventricle with its valves of entry and exit. The pylorus is, really, quite an efficient sphincter, while the cardia never, normally, is strong.

Patients are prone to demand relief of symptoms, their plea implicitly being that the cardia should be abnormally developed. The infant, even if nursed according to the precepts of modern hygiene, is liable to imbibe too much milk, and it is a wise provision of nature that it should puke, without nausea, to spill out the excess. Even in persons who eat leisurely and who swallow without sudden pharyngeal grasping of a large bolus, considerable air is inevitably swallowed; hence, the cardia should not be so efficient a sphincter as to prevent the necessary relief from the distention. If gas is produced in the stomach by fermentation

or otherwise or if from any cause a sudden spurt of peristaltic response occurs, the cardia should yield, so that belching and even waterbrash are, by no means, abnormal, if not exceeding reasonable limits. Unfortunately, these means of relief of gastric tension may be carried out noisily and so as to give offense to the individual as well as to his associates. When the stomach is distended by a meal, especially if relatively large quantities of liquid and gas are present, the retention of contents depends to a considerable degree upon gravity, so that, in bending over, as to put on shoes, or in reclining with the head dependent, the lack of resistance of the cardia may become conspicuous.

It has been pointed out, almost from the beginnings of medical science, that the stomach is peculiarly at the mercy of the conscious—one can not always say intelligent—centers that govern ingestion, as compared with most other viscera. We may go further and say that it is especially lacking in foolproof devices and that its very physiology may be fooled with. For example, two marked and rather disgusting neuroses result from tampering with physiologic provisions necessary to the protection of the organism. Allusion is made to mericysm (cudchewing) and to aerophagia.

The fact that the stomach must be able to relieve itself of too great tension by the safety-valve action of the cardia and must, indeed, in an emergency, be amenable to fairly prompt, more or less voluntarily induced and quite thorough emptying, renders mericysm possible—not now to consider the possibility of an atavistic resumption of a long-discarded function. A combination of conservative gastric and respiratory reflexes, allows the development of the alternate inflation of the stomach by a sort of giant hiccup and the discharge of air, which the patient usually declares is gas arising in some mysterious way within the stomach. In the horse, we treat aerophagia as a vice, under the term cribbing, and it can be controlled in human beings only by their cooperation and understanding of the actual neurotic perversion of physiologic functions.

Perhaps I have dwelt too long upon the various ways in which the inherent deficiency of the cardiac sphincter is manifested; however, both in civil and in military practice, the complaint by patients, virtually amounting to a demand for a reconstruction of this part of the anatomy, is, in the aggregate, enormous. Even the medical profession does not fully comprehend how much of what is included in gastric symptomatology is based upon the conservative weakness of the cardia. It may be well to point out that the introduction of a true valve at this point would make necessary an almost inconceivably intricate safety-device, to allow for relief of undue gastric tension, and that even the introduction of a sphincter as competent as that of the pylorus or anus would, without a remarkably sensitive innervational control, tend to dilate a small-calibered tube such as the esophagus, whereas the stomach and rectum, with a normal maximum distensability of about 1000 mils beyond the ordinary requirements, are not thus endangered. At any rate, even if we do not appreciate that any attempt on the part of nature to improve on the cardia would probably result disastrously, it is well to recognize that we are up against a hard natural fact and that we have no therapeutic means adequate to supplement the defects of nature.

Belching of Sour Chyme and Curdled Milk

It may be well, at this place, to anticipate somewhat. The fact that the cardia is not an absolute sphincter allows two additional complaints of perfectly normal physiologic conditions to be made: that the chyme coming up an hour or more after a meal is sour and that, if milk has been drunk, it comes up curdled. Patients and even some few physicians fail to realize that it would be quite abnormal, even serious, if the stomach contents did not contain hydrochloric acid and the milk-coagulating ferment during the active secretory period.

We may even go further and say that vomiting, though usually regarded as an abnormal reflex, is, rather, to be regarded as a conservative function. At any rate, experience shows that persons who vomit easily and often are, on the whole, less liable to serious gastric conditions than are those who, the same as horses, vomit with difficulty.

The pyloric sphincter is more amenable to treatment for controlling its tonicity. Strychnine, ergot, adrenalin, and the like may be employed to secure more energetic

contraction; the last two being especially indicated when not merely greater response to reflex stimuli is needed, but, a more permanent contraction of the tonic type. Various motor depressants may be employed for the contrary effect, but, owing to obvious contraindications in many instances cannabis indica, nitroglycerin and nitrites are about the only ones available. If ischochymia is especially the effect of painful conditions—somewhat after the analogy of anal spasm resulting from painful states or fissures—local anodynes, such as cocaine or its substitutes may be employed; however, it is rarely justifiable to go beyond the use of orthoform or of such drugs as sodium bicarbonate and magnesium oxide or hydroxide, which relieve spasm indirectly by diminishing acidity.

Occasionally, quite complicated problems in regard to the motor action of the stomach and its sphincters are presented. One may, for example, desire to quiet a stormy gastric peristalsis, while getting a more powerful extrusive action, or to tone up one muscle and depress another. It is, of course, impossible to solve some of these self-contradictory indications, unless by a round-about method adapted to the particular case.

Secretion

Passing over the secretion of mucus, which scarcely is part of the physiologic function of the stomach, and also the osmotic phenomena, including the socalled gastric respiration, which latter is merely an incidental elimination of carbon dioxide and absorption of oxygen on a very small and practically inappreciable scale, it may be said that there are only two well-demonstrated secretions of the stomach, namely, hydrochloric acid and pepsin.

Hydrochloric Acid

Hydrochloric acid is present in gastric juice to the amount of about 2 parts, by weight, per 1000, corresponding to about 50 degrees of decinormal solution. Remembering that the atomic weight of hydrogen is 1 and that of chlorine 35.5, the rule may be laid down that degrees may be converted into absolute proportions by multiplying by the number of days (365) in the year and pointing off so that high degrees of acidity are read as hundreds per hundred thousand, down to 3.65 parts: 100,000 for 1 degree.

Approximately speaking, the acidity of chyme, that is, of gastric juice diluting food, is about half that of pure gastric juice. If the stomach contents at the height of digestion exceed the volume of the test meal, and the hydrochloric acid remains reasonably high, we may incline to the opinion that there is an excess of hydrochloric acid secreted. It may also be considered abnormal if any acid at all is secreted by the jejune stomach—and the potential irritation by the passage of the tube does not necessarily provoke an acid secretion. Most authorities declare that, if the stomach secretes hydrochloric acid when empty, ulcer may be positively diagnosed. I am not prepared either to accept or to deny this statement.

As, whatever bacteriologists say, hydrochloric acid in considerable concentration is practically an antiseptic, a high degree of hydrochloric-acid acidity in stomach contents almost absolutely prevents the development of more than a few degrees of organic acidity by fermentation. Thus, if the hydrochloric-acid acidity is from 30 to 50, the total acidity rarely exceeds 60 or 70; whereas, with low degrees of hydrochloric-acid acidity (1 to 10), the total acidity may reach or exceed 100. The maximum acidity observed in any appreciable number of specimens of any kind of clinical laboratory material is 100 degrees, whether we allude to hydrochloric-acid, organic acidity by fermentation in stomach contents or anything else, a combination of hydrochloric-acid and organic, fermentative acidity, the urinary acidity directly owing to the acid sodium phosphate and indirectly to a variety of factors. I have a very few times encountered as high as 150 degrees of acidity in the various materials mentioned, and nothing else in the clinical laboratory approaches these standards. H. R. Harrower reports a few observations of still higher acidity.

Gastric Gas

It is a curious fact, which I shall not attempt to explain, that in achylia gastrica, with complete absence of hydrochloric acid, the total acidity rarely surpasses 10 degrees, and high degrees are not often developed even on standing for some time.

It may also be pointed out that neither gastric contents nor feces often attain excessive degrees of acidity, nor much fermentation-gas after incubation for periods of twenty-four hours. Such cases of gas-

tric or intestinal fermentation do occur, but, not very commonly. This statement may seem arbitrary and opposed to the best authority; however, it is made up on the best authority of all—that of actual experiment in a U-tube of some sort. A percentage of 10 of gas, by volume, or dilute feces or ordinary filtered or unfiltered chyme is a very high result of incubation for twenty-four hours.

The common conception of the frequent occurrence of a combined vinegar- and gas-factory in the stomach, in accordance with a crude but classic description, is quite fallacious. Even a 100-percent gas production, by volume, in an incubation-period of twenty-four hours, does not explain more than a few belchings of gas from the stomach in the few hours of the period of digestion. There do occur a very few cases of yeasty invasion of the stomach or intestine, or both, in which enormous quantities of gas are evolved. I remember a sample of feces, carefully surrounded with warm water, to facilitate the search for suspected amebas (which, as almost always in temperate climates, failed to materialize), which foamed like yeast—of which, in fact, it largely consisted; a few that have yielded enough gas to blow the cork to the ceiling; and a very, very few samples of stomach contents that have, to some small degree, corresponded to the time-honored description of gas production in the stomach by fermentation. Yet, with every allowance for swallowed air, large quantities of gas certainly are belched up, both by patients with low or practically no hydrochloric acid and occasionally by those with an excess that almost surely precludes the possibility of much fermentative activity to produce either acid or gas.

The apparent discrepancy between the laboratory and the clinical picture has been explained on the basis of a gastric respiration, analogous to that occurring in the lungs; still, as stated before, the construction of the glandular lining of the stomach precludes the possibility of a true analog of respiration assuming any quantitative importance.

Explanation of Gastric-Gas Production

The following is what many years ago I offered as the true explanation:

Acid from the stomach, whether secreted or formed by fermentation, meeting the alkaline carbonates of the bile and the pancreatic and essential intestinal juice, inevitably produces carbon dioxide by effervescence. Qualitatively, this can be demonstrated either by adding an acid to the latter secretions or a carbonate to the stomach contents. Quantitatively, it may either be calculated or demonstrated empirically that between 1 and 3 liters of carbon dioxide gas at ordinary atmospheric pressures will be produced, if we assume that there is an abundance of carbonates to react with known quantities of gastric contents of known attainments of acidity, or if we accept the statement that the respective carbonatic secretions amount to from 500 to 1000 mils in twenty-four hours, of a given strength in carbonates, and add acid to neutralize. This amount of carbon dioxide may be taken as the normal, and it undoubtedly plays an important part in allowing the intestines to float upon themselves in the abdomen, in distending them to a proper degree, and in mechanically stimulating peristalsis.

Given an inadequate supply either of acid or carbonate, in the respective body-fluids, the lack of effervescence well explains certain states of atony and constipation. Given a secretory excitability, so that both sets of glands continue to secrete, drawing upon the blood, into which the necessary raw material either for acid or carbonate is reabsorbed, and the continued production of enormous quantities of carbon dioxide gas is perfectly plausible. However, not in all, but in only a rather small proportion of cases of hyperchlorhydria are actually produced large amounts of carbon-dioxide gas. Most patients with hyperchlorhydria complain of gas, but, on careful elicitation of history and examination, it is obvious that they really belch very little nor is the stomach distended. They simply exaggerate the effects of the small quantities of gas, including swallowed air (always present), and confuse the irritation of highly acid contents with the pressure of gas. For hyperchlorhydria to produce large quantities of gas, two factors are necessary: a fairly patulous pylorus and an equal secretory activity on the part of the carbonate-secreting glands mentioned.

[*To be continued.*]

What Others are Doing

ANTHRAX FROM SHAVING-BRUSHES

The Public Health Service has been informed, by the Surgeon-General of the Army, of the occurrence of several cases of anthrax that apparently were contracted through infected shaving-brushes. In connection with this fact, *Public Health Reports* (July 12) reviews the English experience in similar cases, as reported by the Local Government Board. Among civilians in England, 19 cases of anthrax, 14 of which originated from infected shaving-brushes, were observed between June, 1915 and August, 1916.

Among English troops in France, 28 cases of anthrax occurred, the shaving-area of the face being involved in 23. Yet, it is not possible to supply positive proof that the infection was transmitted through shaving-brushes. Among the troops in England, 18 infections with anthrax were observed, at least 12 of these being in the shaving-area, and, therefore, suspected of a like origin.

Of 33 cases with known outcome, 21 ended fatally, this constituting a mortality of 64 percent. It is pointed out that, except in endemic locations, such as tannery districts, many mild cases probably recovered without being diagnosed, in consequence of which the mortality seems higher than it probably is. The cases observed were, as a rule, of the usual malignant pustular type associated with edema, and by the further fact that the infections were on the neck or, more serious than this, elsewhere on the body.

Upon examining the lots of brushes that were held to be responsible for transmitting the infection, it was found that some of the infected brushes presumably had been disinfected in accordance with requirements. Horsehair from China and Siberia seemed to be principally involved, especially those of gray or yellow hair, and imitation badger hair. Hog bristles, which are stiffer, seem to be free from anthrax. Black or thoroughly dyed hair seems to have been disinfected satisfactorily. The thorough and repeated washing in hot soapy water, which a shaving-brush receives in use, appears to rid it of the dangerous infection mechanically, since most of the cases ocurred soon after a new brush was used, and in two brushes that had caused anthrax the free portion of the hair showed no infection, while anthrax-bacilli were found on the ends of the hair imbedded in the handle; in the corresponding unused brushes, the anthrax-bacilli were found on the free portion of the hair.

It follows from all this that it is wiser to buy shaving-brushes of sufficiently good quality to assure suitable cleansing in the process of manufacture, even though this requires a greater outlay. More, a new shaving-brush should never be used without previous careful washing in hot soap water. It has been found in actual experiment that soapsuds has a germicidal action on many microorganisms and that the simple precaution of washing new brushes with hot soapsuds will go far toward preventing infection. The same medication may suitably be recommended in the case of new toothbrushes, even if they are bought in scaled cartons and presumably are sterile in a commercial way.

DICHLORAMINE-T

We never take up any number of *The New York Medical Journal* but that we find in it something we simply can't resist appropriating. In the issue of June 29, we combat the covetous instinct heroically, until we come to Scal's article on dichloramine-T in the treatment of wounds. His work is almost entirely on accident cases of industrial origin. He well denominates the results as remarkable. Where it previously required ten to fifteen days to heal noninfected wounds, and double these times for those that had become infected, the same results were now obtained in a much shorter time. If properly applied, immedi-

ately after the wound was received, the danger of infection is almost nil; while if the case is already infected when the treatment commences, pus entirely disappears within a week.

Before application, the wound must be absolutely dry. Only a glass applicator can be employed. The wound is then covered with gauze and bandaged. The dressing is changed every twenty-four hours for four or five days, new solution being applied and fresh bandages. It is absolutely unnecessary to touch or wipe the wound. If the gauze sticks to it, spray with the solution. Punctured wounds require free incision before the solution is applied. Foreign substances should be removed as well as devitalized tissue. In general the application should be thorough, but no handling or manipulation of the wounded tissues should be made beyond what is absolutely unavoidable.

The sticking of the dressing—we feel constrained to add as a suggestion—is easily obviated by the use of paraffined lace mesh gauze.

ENORMOUS CARBUNCLE IN AN AGED MAN, WITH RECOVERY

In an interesting communication to *The International Journal of Surgery* (July), Dr. B. L. Branch tells of the case of a man of 83 years who had a "risin" on his back: a hard, red swelling, half the size of a partridge-egg, three inches below the right scapula. It looked to the Doctor like a small carbuncle. This tumor was bruised when the patient drove out into the country, and some time later, when the Doctor saw him again, he was in bed, his temperature registering 103 degrees and pulse over 100. The carbuncle had enlarged to 3 1-2 inches in diameter and had a very angry look.

Operation under anesthesia in a patient of such advanced age was not attempted, the prospects for that being rather discouraging. Accordingly, Doctor Branch decided to employ the Carrel-Dakin method of treating infected wounds. One tablet of chlorazene was dissolved in 4 ounces of hot water, then several layers of gauze were placed over the carbuncle and kept thoroughly saturated with the antiseptic solution. Within thirty-six hours, the fever was gone and there was very little pain. At one time, Doctor Branch counted 30 small openings on the top of the carbuncle, but, in the course of ten days, these had all united and there was left an exposed necrotic surface not less than 3 inches in diameter. This eventually sloughed away, leaving a cavity about 1-4 or 3-8 of an inch in depth. Avoiding any manipulation with instruments that would cause bleeding, the wound was cleansed twice daily, the gauze saturated with the solution being kept constantly applied, while the necrosed tissue was carefully removed from day to day, as this could be done without causing bleeding.

After twenty days of this treatment, the wound was clean and showed a healthy granulating surface about 2 1-2 by 2 1-4 inches in depth, and after another week healing virtually was completed.

A PLEA FOR THE CONSERVATION OF HUMAN MILK

In view of the fact that the mortality of artificial fed infants is fifteen percent higher than that of the breastfed, it is proper, declares Dr. W. L. Funkhouser (*Jour. Med. Asso. Ga.*, July), to give more time to consider the production and care of human milk, so that the excessive infant mortality may be lowered. For many years, efforts have been made to find a substitute or a modification so adjusted that infants can thrive on them, as well as they can on mother's milk. Chemically and theoretically, the adjustment may, within narrow limits, correspond with the mother's milk. Nevertheless, clinically we fail to obtain the desired response, on the part of the babies, to the scientific production.

Yet, it is of the highest importance to preserve infant-life and to lower the mortality of the babies, by securing for them that nutriment on which they thrive best. Indeed, it may be said, with justice, that the future of our country depends upon the infants that are now being born into the world.

In view of these facts, Doctor Funkhouser enters a plea for the conservation of human milk. He claims that more babies can be nursed or furnished with breast-milk than are so provided. Whenever in a given case the milk of a mother does not agree with the baby, it is a mistake to order artificial feeding. Much

rather, the mother's condition should be improved by giving her ample sleep, rest, and outside exercise, thus bringing the quality of her milk to standard, so that her baby can thrive on it. In cases where mother's milk is not available, Doctor Funkhouser urges that donors or wet-nurses should be found, either for direct nursing or so that the milk is expressed from the breast and fed to the infant in need.

Doctor Funkhouser claims that it is not difficult to find well-to-do mothers who would gladly be donors, provided they be not subjected to the dangers of having sick or delicate babies brought to them. The poor or those of the ignorant class will part with their milk for a fee, the customary price being ten cents per ounce. In the case of these, the milk must be expressed under the direction and observation of a nurse or responsible representative of the recipient, for the protection of the baby against uncleanliness or substitution. The city- or county-physician for charity cases may have collected, in this way, breast-milk, which may be kept as cow's milk, and which, if judiciously used, frequently may swing the balance in the child's favor.

PURGATION OF THE PATIENT BEFORE OPERATION

The commonly accepted custom of "preparing" the patients for operation, by inducing active purging, has recently been opposed on various sides, it being advanced that this procedure not only fails to accomplish any good, but, that it actually is responsible for much postoperative distress suffered by patients. It even has been accused of being responsible for many fatal cases that, otherwise, might have terminated favorably.

This subject was investigated very carefully by Dr. Walter C. Alvarez (*Surg., Gyn. & Obstet.*, June), who discusses in considerable detail the reasons for and against preoperative purging. He arrives at the conclusion, which is confirmed by animal-experiments, that the practice of purging should be abandoned. At the same time, he offers various suggestions by which postoperative distress may be avoided. The summary of Doctor Alvarez' experiments and observations is so to the point that it may be cited literally. According to him, the reasons for avoiding purging before an operation are:

1. Some of the purgatives owe their effects to the fact that they are irritant poisons that must be removed quickly from the body. Others act by interfering with intestinal absorption and by upsetting the balance of the salts. In either case, they bring about pathological conditions. The body is weakened rather than strengthened.

2. We know now that the dehydration of the body and the upset in salt-balance are bad, particularly before an operation in which there may be hemorrhage and vomiting.

3. Following magnesium sulphate, there may be an increased amount of fluid in the bowel, the desire to void which causes disturbance. In operations on the colon, liquid contents are harder to control mechanically than are solid masses.

4. There is an increased growth of bacteria. There is some evidence that there is an increased absorption of toxins, because of a greater permeability of the mucous membrane to bacteria. Undigested food may be carried down into the colon, thus supplying increased pabulum for the bacteria.

5. By weakening some parts of the bowel and making others more irritable, the even movement of material from stomach to anus is rendered impossible.

6. Whether from disturbances in motility, in absorption into the circulation or in the bacterial conditions, there certainly is a tendency to flatulence and distention.

7. When the bowels are emptied frequently during the night, the loss of sleep is considerable. The purgation is particularly trying if the patient is wearing a large cast, has a broken leg or other painful lesion that makes each resort to the bedpan an ordeal.

8. If the patient should happen to have some intestinal obstruction, a gangrenous appendix, a badly diseased Meckel's diverticulum or adhesions are forming around some pus, purgation may directly cause death.

9. Purgation makes the bowel react so poorly to drugs that there may be grave difficulties in meeting postoperative emergencies.

10. Emptying the bowel by starvation and purging makes the resumption of colonic activity much more difficult. The

colon must be filled and distended to a certain extent before it will empty itself.

11. The fact that children and nervous women will sometimes start to vomit during the night, before the operation, shows that the purge must be responsible for some of the postoperative nausea and vomiting. The ether adds the finishing touches to what was begun the night before.

It is suggested that food be given as late as possible before operation; that even enemas be avoided if not absolutely necessary; that water and solid food be given by mouth as soon after the operation as possible; and that purgatives be avoided after operation as well as before.

MAGNESIUM-SULPHATE CREAM FOR WOUNDS

The Prescriber (June) abstracts an article from *The British Medical Journal* for March 23, in which the author refers to earlier work published concerning the use of magnesium sulphate in the treatment of wounds. He now recommends a cream containing dried magnesium sulphate, 24 ounces, and glycerin of carbolic acid (1 : 10), 11 ounces. This cream is very hygroscopic and should be kept in a suitable jar.

The wound is packed and thickly covered with this cream and left alone for three or four days. A profuse discharge of serum takes place. After a few dressings, a bright granulating surface presents itself, when the dressing may be changed to magnesium-sulphate solution for a few days.

The method is simple, inexpensive, and gives rise to no constitutional disturbances. Its sphere of action is confined to the first stage, after which other remedies should be resorted to.

DIETETIC TREATMENT OF LIVER DISEASES

Dr. Allan Eustis, writing in *The New Orleans Medical and Surgical Journal* (August), offers experimental and clinical data indicating that proteins are injurious in conditions in which the liver is diseased, while a high carbohydrate diet is indicated.

Doctor Eustis has found that the diet should consist essentially of an abundance of carbohydrates, and, while a transient glycosuria may be produced, this soon disappears as the liver-cells are regenerated. This must be selected according to the gastric function of the patient, and, if vomiting exists, glucose by drip-proctocylsis or by hypodermoclysis must be resorted to. Where there is little disturbance of the gastric function, the following diet-list should be selected from and the patient maintained on this diet as long as a positive aldelyde reaction is obtained or as long as intestinal toxemia is present. There follows a diet-list for patients with defective liver function:

May Take: Soups: all clear soups, vegetable broths, puree of corn, beans, peas, asparagus, spinach, celery, onions, potatoes; tomatoes.

Farinaceous: oatmeal, rice, sago, hominy, grits, cracked wheat, whole-wheat bread or biscuits, corn, rye, and graham bread, rolls, dry and buttered toast, crackers, muffins, waffles, batter cakes, wafers, grapenuts, marcaroni, noodles, spaghetti.

Vegetables: potatoes (sweet and Irish), green peas, string-beans, beets, carrots, celery, spinach, artichokes, avocados (alligator-pears), eggplants, lettuce, onions. All vegetables except cabbage, cauliflower, and turnips.

Desserts: rice and sago with a little cream and sugar, figs, raisins, nuts and syrup, stewed fruit, preserves, jellies, jams, marmalades, gelatin; prunes, apples, pears, either raw or cooked.

Drinks: tea and coffee (with cream, but, not milk), grape-juice, orangeade, lemonade, limeade, Vichy water, cocoa. An abundance of pure water, cold or hot.

Patients must not take: Veal, pork, goose, duck; salted, dry, potted or preserved fish or meat (except crisp bacon); oysters, crabs, salmon, lobster, shrimp, mackerel, eggs, turtle and ox-tail soup, gumbo, patties, mushrooms, mince pie, cabbage, cauliflower, turnips, cheese; alcohol.

In conjunction with the dietetic régime, it is necessary to direct forces toward overcoming any tendency to the production of intestinal toxemia, and this we believe to be best possible by the administration of "bulgaric acid cultures," such as, for instance, galactenzyme.

Negative tests for urobilinogen and indican extending over a week indicate that either eggs, fish or easily digestible meats may be taken in moderation. In his practice, Doctor Eustis limits this to at most once a day. It will be found that butter-

milk to which lactose has been added is the best animal protein on which to start, but, the author can not too strongly urge a constant control of the diet by frequent examination of the urine.

SCARLET FEVER AND EPILEPSY

In *The New York Medical Journal,* July 13, Friedel contributes an interesting paper on a case of scarlet fever and epilepsy. We note especially his use of anterior-lobe pituitary substance. Cushing's experiments showed that the removal of this lobe leads to retardation of growth, non-development of secondary sex characters, sluggishness, and tendency to excessive obesity. All of these were shown in the case described, which was that of a girl 13 years of age. The history covered several years subsequently. Improvement began under the use of anterior-pituitary substance, the epileptic attacks ceasing for three months. The medicine being then suspended, the attacks returned, but, again subsided when the treatment was resumed. Unfortunately, the case was then lost sight of. So far as described, however, the results of treatment are highly significant, pointing as they do to the possession of remarkable therapeutic values by the product.

GLUCOSE LOCALLY

In *The British Medical Journal,* June 15, 1918, Benians suggests the use of glucose for superficial bacterial infection. His argument is as follows: Most pathogenic bacteria ferment glucose, producing a definite acidity. Many bacterial toxins form best in alkaline media, some of which are inhibited by glucose, the diphtheria toxin being one. Fetid discharges are mostly due to tryptic digestion of proteins which can only occur in alkali. One-fourth percent of glucose stops the formation of indol, as a rule.

Bromidrosis quickly ceases on the application of glycerin. The organism of ozena grows with difficulty in acid broth and then without odor or indol production. A twenty-five percent solution of glucose renders the secretion acid and completely kills out the specific infection. The results in chronic otorrhea are variable. In treating chronic vaginal discharge, in most cases prompt improvement follows. The patient's comfort is thus increased and the normal acid reaction restored. The normal bacterial flora then resumes possession of the field.

CALCIUM LACTATE IN NASAL SURGERY

Dr. Philip A. Harry (*Prescriber,* July) calls attention to the great drawback in nasal surgery presented by the profuse hemorrhage that so frequently interferes with the progress of operations. Even if a plug is placed in the rhinopharynx, to prevent the blood reaching the larynx and the esophagus, there is a disadvantage of possible reflex disturbances that not only may prove annoying to the anesthetist, but, tend to increase the hemorrhage. Doctor Harry has found the usual methods of preventing hemorrhage very unsatisfactory and concludes that it is necessary to prescribe some substance that will increase the coagulability of the blood, and thus act as a hemostatic.

Calcium lactate was found to be a suitable drug for this purpose. It is not unpleasant to take and can be administered conveniently in the form of tablets, 20 grains being ordered to be taken three times daily.

If possible, the treatment should be begun at least a week before the operation, while the patient should be advised to restrict his tobacco and alcohol and to eat no fat beef or mutton and as little fresh fruit as possible. When there has been no opportunity for such preparatory course, it is helpful, before packing the nose with cocaine and adrenalin chloride, to inject into each inferior turbinate 20 minims of a saturated solution of calcium lactate. The injection should be made while the patient is reclining, instead of in the sitting position. In the case of women, the sedative action on the nervous system is noticeable, although during or just after the menstrual period calcium lactate taken by mouth has little or no effect.

Among the advantages of calcium lactate are the following: Hemorrhage is greatly reduced; the quantity of cocaine and adrenalin necessary is less; the tone of the blood-vessels is improved; healing of the mucous membrane is more rapid. Pharmacists prefer to dispense the lactate instead of the chloride, which is very deliquescent; the former is also more readily oxidized; also, the basic radical is placed

more fully at the disposal of the body. To children suspected of hemophiliac tendency, one dram of the syrup of calcium lactophosphate should be given three times daily for a week before any nose or throat operation is undertaken.

The disadvantages of a temporary use of calcium lactate are few. In several instances, patients have complained of severe headache for several hours after the operation. This is most marked in septum-operations, when adrenalin chloride has been injected. The patient should, in such cases, be advised to drink freely of lemon-water and to apply cold to the head.

INTRAVENOUS INJECTION OF EUSOL IN CHRONIC ARTHRITIS

Fairclaugh (*Brit. Med. Jour.,* June 15) treated 14 cases of chronic arthritis by the intravenous injection of eusol. Six were very much improved and but 4 unaffected. These cases were not typical of rheumatism and the infection was of doubtful origin. The solution used contained 12 1-2 Grams chloride of lime, shaken up with one liter of water, allowed to stand some hours, filtered and 8 1-2 Grams of common salt added. It contained 1-2 percent of free hypochlorous acid. The dose was 100 mils. Those who improved under this treatment showed benefit not only in the joint condition and general health but in a steadying temperature. While it is uncertain whether we are here dealing with a toxemia or a direct invasion of the joint by organisms, many of the symptoms must be due to toxin action. If these can be stopped the patient must be greatly helped. Definite improvement should follow the first dose within a day.

THE ACTION OF TETHELIN IN STIMULATING TISSUE REPAIR

The observations on the action of tethelin, which was isolated by Robertson in 1916, as, presumably, the active principle of the anterior pituitary body and is supposed to stimulate growth, were investigated recently by E. L. Barney, of San Francisco (*Jour. Lab. & Clin. Med.,* May).

Reasoning from the basis that acromegaly is caused by a hypersecretion of the anterior lobe of the pituitary body, Doctor Barney believed that tethelin would have a very great value in certain cases of delayed union in fractures. Also, he assumed, one may anticipate less tedious results in the various forms of skin grafting and in treating gastric ulcers; in fact, in almost any epithelial lesion tending to chronicity.

Following the suggestion received by experimental work on wounds in animals, it was decided to use tethelin in the treatment of several types of indolent ulcers, such ulcers being selected where the usual ointments and stimulators of granulation-tissue had been tried without success.

In several cases of indolent chronic ulcer, of which case-histories are presented, very satisfactory results were secured from the application of tethelin in powder form or in solution or mixed with lanolin. This satisfactory result was observed, usually, in cases in which other treatment had been tried without avail, and the conclusion is justified that tethelin will prove of decided service in stimulating tissue repair.

ANTIQUITY OF THE OFFICE OF CORONER

King Athelstane of England, writes Everett Spring in the April *Case and Comment,* felt in a beneficent mood; he granted a charter of privileges to St. John of Beverley. The royal mood was merry; therefore King Athelstane comprised in rhyme the privileges of his subjects. In eighty lines of verse he mapped out the performance of public functions. Here is a fragment:

"If man be founden slain I drunkend,
Starved on Saint John rike, his agen men,
Withouten swike his aghen boiliffs make ye fight.
Nan-oyer Coroner have ye might,
Swa mikel freedom give I ye,
Swa hert may think or eghe fee."

For 1,000 years the rhyme has survived—not because of its excellence, but for its historical value. It establishes, for one thing, the antiquity of the office of coroner. Now, despite the ten centuries of traditions that cling to the office, some states want to shake off,—and others have,—the institution that King Athelstane sponsored.

Through 1,000 turbulent years coroners have marched in and out through history. One thousand years of literature have caught the quaint figure.

Miscellaneous Articles

In Memory of Doctor William F. Waugh

I FIRST became acquainted with Dr. Waugh, here, about 1887 or 1888. He was professor of the Practice of Medicine in the Medico-Chirurgical College, then new. I visited the college occasionally, and became acquainted with several of the professors, but, Professor Waugh was by far the most popular teacher with the students. It is strange how little incidents like the following will stick in one's memory. The students requested Professor Waugh to give them a lecture on Egypt. I was invited to attend the lecture, which he introduced by saying: "I don't know why I was asked to lecture on Egypt unless it is because I have been in South America!" He then proceeded to give an excellent lecture on Egypt. Doctor Waugh had always been a wide reader, so, it was as easy for him to lecture on Egypt, as it would have been to speak on many other subjects.

Some years before I knew Doctor Waugh, he had been a medical officer in the Navy, and it was in this capacity that he had been in South America. He has told me of having made visiting inspections of hospitals there and elsewhere. He said that he first asked to be taken to the cellar, then, to the kitchen. His inspections were no "parlor" affairs. And, in hospital as in household economics, he laid great stress upon the revelations of the garbage can. These ideas, gotten in conversation with him, have always clung to me; I suppose, because they are basic.

While riding from patient to patient, I noticed that he always carried a book with him. One day I looked at his book companion, and it was not a medical book. I think on that occasion it was some sort of history. On being asked if he was specially interested in that subject, he said, somewhat confusedly, "I just wanted to see if the author had it right." His feeling of modesty confused him, but his reply indicates his extensive acquaintance with books and literature of all kinds.

But, his prowess was not all in his brain. I saw him at his home early one Sunday evening, and found rather an animated

Doctor Waugh of Philadelphia.

conversation going on among those present. It appeared that, early in the day, the question of walking 25 miles had been discussed. Some of his younger friends thought that he couldn't do it. He and one or two young fellows, that day, had walked to Bryn Mawr and back, a distance of about 25 miles. I was inwardly glad that I had not made my call early in the day.

Although he was a very modest man, these little incidents illustrate his com-

petence and self confidence. Many more incidents could be given to illustrate his companionableness. He was genial and gentle. In this connection I remember an occasion when he and I were dining with an extremely orthodox family. Some question of creed came up, and he discussed it so gently, in such a sweet spirit, and yet so clearly and convincingly, that the liberal point of view seemed to be entirely acceptable to our friends; that is, acceptable from him; although, perhaps never acceptable from any one else before nor since.

Dr. Waugh had a great many friends in Philadelphia, both in and out of the profession, and great was the surprise when it became known that he intended to move to Chicago. I think the real explanation was psychological. He always had breath of view—he wanted more breath of life, and he thought he could find it in the great west. I think that the broad and bounding west had been calling him for some time before he yielded.

While I knew him intimately, he never told me what I have just written. Perhaps he did not know it then. We often do things without knowing why. I could not have divined the moving reason for his going, then, as well as I can now. Now, I know how he looked upon the parts of the great west and southwest which he visited from time to time, and I now feel that it was this great call that took him away from Philadelphia. After feeling the call, nothing else would have ever satisfied him.

We seldom talked of commonplace things. His presence inspired thoughts and problems large and deep. I never knew him to be the least bit contentious. We never disagreed. And we did not always agree. We simply exchanged; but, not with indifference. Some times with animation but never with intolerance.

His face and eyes were expressive, and his voice musical and gentle; but his "presence" did not depend upon things physical. He was just as much "present" in the dark. That, I suppose, is a spiritual presence, that we can feel without seeing, hearing or touching. Few men have it.

Just one more little incident, please. I first visited him in Chicago in 1893 after the close of the World's Fair. He lived not far from the grounds. On a moonlight night we went among the buildings, then partly in ruins. Part of the time we walked and part of the time we went in a boat through the lagoons. The forms loomed up in the moonlight like specters and like structures in fairy land. I had just returned from Egypt and the Holy Land. On this occasion Doctor Waugh was an ideal companion. We did not talk all the time. But, I think, we both enjoyed every moment of that memorable night. There are men whose presence would have killed the romance of such an occasion. Is this a difference in souls?

And, now, our friend has passed away. Where? Let us think of his soul as having gone to the place of sunsets and dreams; to dwell with kindred great souls and grandeur and beauty forever.

C. F. Taylor.

Philadelphia, Pa.

DOCTOR WAUGH AS A MAN

When the telephone brought me the message that Doctor Waugh was dead, I felt a sense of personal loss, such as one feels only when a cherished friend passes into the great unknown. Only a couple of weeks ago, I received a few lines from him, saying that he would be glad to have a visit from me. I knew then that my old friend was failing, otherwise he would have remembered that I am unable to leave my chair. So, when the word came that he had solved the great mystery, it was no surprise to me.

At once my thoughts turned back to my earliest relations with him, before I had ever met him personally. That was thirty-three years ago, when he was editing *The Medical World* of Philadelphia. I was just beginning to practice medicine and some friend had placed into my hands a copy of *The World*. The general tone of the journal attracted me so much that I invested a little of my scanty stock of money in a year's subscription. In the first two years of my practice, I received an immense amount of help from Doctor Waugh through the columns of his journal, and on several occasions I made bold to write to him for light upon knotty problems. The kindly reception he always gave to my inquiries made me feel instinctively that not only was he worth knowing as a physician, but, as a man. So, when after the founding of the

Illinois Medical College he came to make his home in Chicago and joined us in that enterprise, I felt that it was no stranger whom I was privileged to meet.

When we contemplate the qualities that make a man—a man of the highest type, industry, patience, courage, sincerity, fairmindness—we who knew him best can testify that Doctor Waugh possessed them all in a high degree. One of his most marked traits was his never-failing faithfulness to a friend. If he accepted one's friendship, it was without mental reservation. He gave his whole confidence, and he expected entire confidence in return. This wholeheartedness was, some times, taken advantage of by his enemies; but, he felt in this matter as did the late Henry Ward Beecher, who used to say that he would rather have his trust abused some times than to go through life suspecting everyone's motives. Likewise, Doctor Waugh once remarked to me that the most unhappy people in the world are those who live in an atmosphere of suspicion, mistrusting everybody, and always attributing unworthy motives to the acts of others.

A man possessing the qualities that characterized Doctor Waugh is not likely to accumulate great wealth, because it was foreign to his nature to pile up money when there were opportunities for doing good with it. However, if he did not leave behind him a fortune, he left a memory in the hearts of those who knew him intimately, a memory that will be as the fragrance of a never-fading flower.

WILLIAM RITTENHOUSE.

Chicago, Ill.

DOCTOR WAUGH AS A FRIEND

Again one of my most-esteemed friends has entered the shadow of the great mystery. Dr. William F. Waugh has reached his journey's end, and we that are left must journey on alone until the time arrives for our great adventure. We were companions on life's road for more than twenty years, and one becomes very familiar with a fellow traveler in twenty years. We discover each other's good points and also their bad ones. There were some peculiar distinctive traits in Doctor Waugh's character, but, no bad ones.

He had the genius of friendship; he was hospitable, generous, sincere. He was social and kind and "loved the wine of wit —the dessert of a good story that blossomed into mirth." He was honest, fearless, independent, and original, earning and holding an enviable position in medical thought, and, moreover, was one of the broadest-minded, most versatile physicians of my acquaintance.

Doctor Waugh was an exceptionally well-educated man, but, not narrow, as so many learned men are. He had but little patience with the bigotry, narrowness, and the illiberal, autocratic attitude of many physicians. His editorials and medical writings were classics—many of them—fearless, yet, kindly. He wrote from rich experience and never hesitated to speak the truth as he understood it, though his writings often were criticized and ridiculed by a few so-called "authorities." He was too big and too cultured to be disturbed by the prejudice, egotism, and bigotry of any man or clique. He was intellectually hospitable and believed in the fair exchange of thought and in the chivalry of discussion.

No physician of my acquaintance was superior and but few were equal to Doctor Waugh as a teacher and public speaker. It was a distinct joy and privilege to hear him discuss a medical paper. His speech was so simple, clear, and natural, so prodigal of comparison, so logical, and his sentences were so well chosen that he put to shame many a verbal varnisher and illogical would be "authority."

Doctor Waugh loved nature and he often frequented the great sanatorium of "out-of-doors." He had eyes to see that this habitable world is a tangle of beauties, like the interlacing of the sunshine and the shadow in a summer wood when sunlight rules the sky. He knew that one's life could be infinitely enriched by spending a few weeks each year with nature. He knew that out-of-doors is healthful, energizing, pure, and peaceful, that recreation means re-creation, and he wrote much of out-of-door life and its advantages.

I visited Doctor Waugh a short time before he laid his burden down. He was as philosophical and tranquil as was Socrates in his last hours, having no dread of the future, but, calmly was waiting for the end. He seemed to be living in a neutral territory belonging neither to the day nor to the morrow, but, in a certain high re-

gard, belonging to himself alone. And in this gray gloaming of his life I know his spirit was at rest. He knew the time had come to watch the day dim and the night darken, until, at the end, he who began his dreamings in the day would end them in the night. Again he was in spirit, at least, under the neighborly sky and companionable stars, feeling the touch of summer's lips and the hanclasp of congenial friends.

Doctor Waugh needs no words of mine as a tribute to his work and worth—thousands of grateful and appreciative physicians and laymen know of these; but, as he was my friend and I was his, I write these few words, to express my sorrow at the loss of so wise a teacher and physician, so kind a man, and so true a friend.

GEO. F. BUTLER.

Wilmette, Ill.

DOCTOR WAUGH AS AN EDITOR AND AUTHOR

I first met Doctor Waugh some sixteen or seventeen years ago. I remember the occasion very distinctly. It was at a dinner of the old Chicago Academy of Medicine, presided over (in fact if not in person) by that rare genius, Dr. James G. Kiernan. I sat next to Doctor Waugh, and was charmed by his genial personality, by his rare quality of putting a stranger like myself—a young man somewhat abashed by the erudite company in which he found himself—immediately at his ease, and by the wide range of his acquaintance with every topic discussed.

After this I saw him quite frequently, and read his editorials in the old ALKALOIDAL CLINIC with increasing interest as I came to know him better. I was an editor myself, and was trying to learn the secret of success of the editorial writers who presided over the destinies of the journals which were really read by the medical profession. THE ALKALOIDAL CLINIC was one of these. It was not difficult to see that it owed its success to the rare combination of the fire and energy and farseeing comprehension of human nature characteristic of Doctor Abbott, with the therapeutic enthusiasm, simplicity of style, literary genius, and human understanding of Doctor Waugh.

In February 1904 I became myself a member of the editorial staff of the CLINIC. I was given this position to fill in as best I could the gap left by Doctor Waugh's temporary withdrawal from active work. The fall before, he gave up his work to undertake a houseboat trip, for the benefit of Mrs. Waugh's health, down the Mississippi River. The editorial details were left in my hands, but the Doctor continued to contribute editorials to the journal, and, on this trip, devoted must time to the preparation of the manuscript for the great work on practice written jointly by himself and Doctor Abbott. The following summer, he returned to Ravenswood. From this time on, he staid only intermittently in the editorial office. He was a free lance, coming and going as he wished, spending his winters largely in the south, until he became interested again in teaching at Bennett Medical College, of which for several years he was dean.

But, whatever he was doing, wherever he was, he continued to contribute to the editorial pages of THE ALKALOIDAL CLINIC and of THE AMERICAN JOURNAL OF CLINICAL MEDICINE when the name was changed. Through all these years, in sickness and in health, whether spending his winter in Corpus Christi or his summer in Muskegon, he always managed to contribute something virtually every month.

In his editorials, there was always something distinctive. He was an enthusiast and he imparted this enthusiasm to his readers. He was an optimist in a period when nihilism was the order of the day; and he made men believe that things could be done for the sick, that diseases could be cured which most physicians thought incurable. He was a humorist, and he touched with color the dull but necessary facts and made them attractive. He was a scientist, but he knew how to clothe science in language which every man understands.

Some of his editorials were certainly rich in satire. I recall one written about a celebrated Philadelphia physician whose name I will not mention. It deserves reprinting, and, here it is:

"A distinguished physician in Philadelphia was arrested for fast chauffing, and despite his protestations locked up at the police station, while his class at college enjoyed a vacation. The papers fail to describe the scene at his trial, but an inti-

mate acquaintance with the city of 'brotherly hatred' enables us to portray it as if actually present.

"The magistrate was informed that the charge was fast driving an automobile. His Honor looked shocked. 'What? In Philadelphia?' The prisoner promptly denied the imputation of fastness.

"'What is your name?' demanded the magistrate.

"'————,' responded the prisoner.

"'Hum,' mused the judge. 'A bad name. It carries with it the suggestion of rapidity, though not of aggressiveness I must admit.'

"'But, your honor,' eagerly exclaimed the prisoner, 'I could not possibly have been fast. I was born and bred in Philadelphia, as were my ancestors, and have rarely passed the city limits, never those of propriety.'

"The frown on the judge's face lightened perceptibly. 'What is your occupation,' he asked.

"'A physician,' responded the culprit, 'and a Professor in Jefferson Medical College.'

"'That beats an alibi,' remarked the judge. 'No Philadelphia physician ever could have been rapid, least of all any Professor in Jefferson. But, let us examine a little further into this matter: Are you in favor of anesthetics in labor?'

"'No,' responded the prisoner.

"'Do you believe in nuclein, the sulphides, calcium iodized for croup?' 'No,' replied the prisoner, each time with increasing emphasis.

"'Do you believe in intestinal antisepsis?'

"'No,' shouted the prisoner.

"'Do you prescribe the alkaloids?'

"'NO' screamed the prisoner, growing red in the face from passion and astonishment.

"'The prisoner is acquitted,' said the judge. 'The charge fails by its palpable absurdity. What the officer took for an automobile was the one-horse John on Master street. A commission *de lunatico*, will at once take up the case of the officer.'

"'But, your honor,' said the officer, 'I have just come from Chicago, where—'

"'The inquiry is unnecessary,' interrupted the magistrate, 'send him to the asylum at once. Any man who would leave Chicago to come to Philadelphia is *prima facie, non compos mentis.*'"

Then, there was that editorial about active-principle medication, hung upon a story of every-day life. It brought home a great truth to thousands of men in a way which they were bound to remember.

"Do you ever realize how antediluvian is our medical profession in many respects? How obstinate is the conservatism with which it clings to its customs and ideas, and stubbornly resists the impulse to progress? Just compare its queer old ways with those of the world in general:

"'Mr. Grocer, I want a barrel of flour.'

"'All right, Doctor, I will send it up. Five dollars, please.'

"'Well, just take this.'

"'Why, what's this rock, Doctor?'

"'That's a piece of ore. I calculate that it contains about five dollars' worth of gold and silver, to say nothing of a little lead, copper and other metals that enhance its value. True, it may not contain anything of value; and then again it may be worth much more than $5.00; but to the best of my belief, and I am a shrewd guesser, it is worth somewhere about $5.00.'

"'Very good Doctor, but we don't do business that way. When you have extracted the gold and silver, separated them, and the Government has stamped their value upon them, we will accept them at their value.'

"'But this ore is Nature's combination; the metals in it are arranged by God's hand, and no one of the metals therein truly represents the ore or measures its value, which depends on the total values of all the various metals and other substances present.'

"'Doctor, how many thousand years have you been asleep? Your slumbers must have begun before the dawn of history, before old Tubal-Cain broke up the harmony of God's creations by extracting metals from the ores.'

"'But that's exactly what I do in dispensing my medicines, grind up roots, barks or leaves, exhaust them with alcohol, water, glycerin, etc., and give the whole dum business to the patient, gum, tannin, coloring matter, sugar, any old thing it may contain, for the sake of a little active principle that it may or may not contain.'

"'Doctor, you are slandering your noble profession when you say you really attempt to treat disease with such uncertain crudities. Surely you have not loitered all these 10,000 years behind the mercantile community?'

"But is not this exactly what we have done? Truly, if a man pays his lawyer $100 for advice as to his property, and the doctor $1.00 for advice as to his health,

is it any wonder? Property rights, trade needs, all that appertains to the creation, securing and transfer of material values, have been ceaselessly elaborated and improved upon, as the advance of civilization rendered necessary; while the medical profession stands as to its materia medica where it did in the days of barter and exchange, before a circulating medium had been devised. Think of the man who would offer a 'concentration of all the metals from a pound of ore,' as a legitimate equivalent for merchandise.

"Did they crucify the first man who proposed pure gold, or silver, or iron, as a medium of exchange?

"Don't be too all-fired ancient, Doctor. Try to catch up about 9,000 years. Ten centuries is enough to be behind the rest of the world."

Editorials like this burned themselves into the minds of their readers and effected a profound impression on their methods of practice. They brought home to many of us the vital truths of the active-principle method of medication. This was the great life work of Doctor Waugh. He believed that the alkaloids, given in "the small dose, oft repeated," were the solution of the great problem of therapeutic incertitude, which, after all, was at the bottom of the prevailing nihilism. He knew that if remedies which were active were given with a clear conception of how they act, in a commonsense kind of way, to meet definite indications, physicians would cease to be nihilists and would become optimists like himself. Combined with this, he emphasized certain very important therapeutic truths, the most important being the use of the sulphocarbolates as intestinal antiseptics (which he virtually introduced) and the significance of "circulatory equilibrium". With Doctor Abbott, he epitomized these teachings into epigrams which have become embodied into the subconscious mind of the profession. Who will ever forget such expressions as

"Clean out, clean up, and keep clean," or

"The smallest possible quantity of the best obtainable means to produce the desired therapeutic result."

Whether the professors, the leaders, the teachers, and the more scientific members of the profession know it or not, this teaching has profoundly influenced American therapeutics and left its impress upon the manner in which most practitioners select their remedies.

And, all this was carried over into Doctor Waugh's books. The first of these, written before he became an active member of the CLINIC staff, was his "Treatment of the Sick". Although long since out of print, there still are hundreds of physicians who find this old book an invaluable recourse in time of trouble. It tells in a few words the thing the Doctor wants to know: how to treat his patient, and it tells him why. Much of this was later incorporated in two larger volumes, "The Textbook of Alkaloidal Therapeutics," and "The Alkaloidal Practice". While these books are not uniform in quality and interest, there are portions in them that read like a story, because they embody the vital, everyday experiences which Doctor Waugh lived and which he made live for other people.

But with all this—Doctor Waugh's brilliancy of intellect and his wide range of knowledge, his enthusiasm, his optimism, and his geniality—there was one thing that impressed me more than anything and that was, his kindliness of spirit manifest in everything he wrote, even in his satire. It was distinctive, and has been through all the years, as every old reader of CLINICAL MEDICINE knows. Doctor Waugh was one of the most human, in the best sense of that word, of editorial writers. He saw through the eyes of the average man, and put into words the kindly thoughts that appeal to the best in the hearts of most of us. This spirit impelled him to write upon topics which were foreign to the pages of most scientific journals. They were topics that appealed to manly men and womanly women, irrespective of their profession or circumstance of life. He thought that doctors, after all, differed in no sense from other human beings in their instincts, and their emotions. Therefore there was nothing remote about what he wrote. His pictures were close up. That is why his readers and his friends liked him. Another reason why they liked him was that in what he wrote, even when he was discussing purely medical subjects, he avoided the cold technicalities and that "appearance" of wisdom which confuses many and

impresses few, and injected into his work warmth, color and living interest.

Going over in my mind the great medical editors that I have known—and I have known many—I can think of a number who were possibly more brilliant, undoubtedly more "scientific" and erudite, and certainly more business-like than Doctor Waugh, but, I know of none who knew MEN better than he did, and who was able to convey that understanding through the editorial page.

We shall all of us miss him, and none of us more than those who have known him as a dear, devoted friend and coworker.

We hope that all of you, old friends and new, will help us to hold aloft the torch which he lighted. With Doctor Abbott, Doctor Waugh gave CLINICAL MEDICINE a great mission. It is for us to "carry on," and that means you, my dear reader, just as it means me.

ALFRED S. BURDICK.

Chicago, Ill.

DOCTOR WAUGH AS A TEACHER

Dr. William F. Waugh belonged to the old school. What I mean by "old school" is, that he had absolute confidence in definite therapeutics. This confidence was based upon a wide personal experience with his materia medica.

During the last twelve years, I was intimately acquainted with him. As a teacher of materia medica and therapeutics, he never failed to impress his students with the idea that the remedies he recommended had efficiency and potency in the treatment of disease. Each student felt that Doctor Waugh believed in every claim he made for his active principles.

That he had the courage of his own convictions, he demonstrated time and time again. He had tried out upon himself each and every remedy he prescribed, not only for its physiological effect, but, he had personally experienced the toxic action of those drugs which possess such action.

His optimistic outlook upon life, even up to his very last hours, was an inspiration to all those students who came into contact with him. He was tolerant to those who held views contrary to his own.

Not only the medical students but the general practitioners of America who have received Doctor Waugh's teachings for the last quarter of a century have sustained in his death a very great loss.

JOHN DILL ROBERTSON.

Chicago, Ill.

DOCTOR WAUGH AS A TEACHER AS HIS STUDENTS KNEW HIM

The science of teaching should be based upon a knowledge of the student and his fitness for his chosen profession. This knowledge Doctor Waugh possessed to a marked degree. His aim and desire was, to encourage those whom he saw were fitted to progress in their selected service to humanity. To him, the practice of medicine was a thing sacred, and not to be entered into lightly and unthinkingly. To him, it meant service to his God as well as to his fellow man.

A student, to fit himself for the practice of medicine, must have embodied in him certain fundamentals. To reach the standard that Doctor Waugh set before him and which he considered necessary for a practitioner, a student must, first of all, be a gentleman, gentle in the sense that he must be able to handle the most delicate and intimate relations in the lives of his patients. He must usher in the new life, must close the eyes at death, and give consoling comfort to the loved ones that were left. He must be a *man* in facing the various difficulties, where, hiding behind an untruth, would be easy and to stand in the open would be hard, but, the results for the patient would more than justify the stand. He not only must know medicine, but, he must have a store of information, to be able to help solve the problems his patients may bring, whether domestic, financial or even spiritual.

These are a few of the requirements that Doctor Waugh tried to instill into the minds of the student, not by eloquent oratorical lectures, but, by precept and example. By his own life and by his presence, the student recognized that a gentleman and a physician stood before him. Doctor Waugh was the type of a physician that one wished for his own family.

Of his brotherly love and innate gentleness, we would learn by a word dropped by chance when, perhaps, he would be giving the details of a case of some foreign

family in the slums of Philadelphia, while health-commissioner there, with some such remark as this: "And, gentlemen, the look of gratitude in that mother's eyes more than repaid me for the trouble I had in the case." To his patients, he gave of himself unstintingly and to his students he gave the benefits of his experience, and he left with them the thought that their work must be all in all to them and that their patients must be their first thought.

Why did the students love Doctor Waugh and why did they respect and reverence him? He came to them, *not* with the blare of trumpets, to extol his superiority, but, as a brother a little older in the fray, a little longer on the battleground, and by that token was enabled to reach out a helping hand, to point out the path to knowledge and to show them the various pitfalls into which they might fall. The student loved Doctor Waugh when in school and, later, when in practice. It was like a burst of bright sunshine from behind a dark cloud when, puzzled over a case, he would remember suddenly that Doctor Waugh had said: "I used this remedy for that condition and found it worked kindly." Oh, the comfort of that memory has made it a bulwark of strength, to which many a student can testify!

Nor can I pass over the other side of this great man without a word, namely, the companionship of Doctor Waugh. The pleasant hours I spent in his home and a week one time spent "in camp", those hours around the open fire, where we sat enchanted at the stories of his experiences and of his knowledge gleaned from a thousand sources—all these stand out in my memory as I feel a tightening in the throat that tells me how dear those days were to me.

Doctor Waugh has passed to his reward. The world has lost a great man, the students, a greater friend. May his mantle, like Elijah's, fall upon some young one among us! The world has too few of such men! May his memory always live!

ALFRED T. DAVIS.

Chicago, Ill.

FROM A FRIEND AND COLLEAGUE

With the passing of Dr. Waugh, the profession has sustained an irreparable loss. One of the old school of professional gentlemen in all that the term implies, he was a safe mentor and guide for every medical man who regarded medicine as something above the sordid commercialism that pervades all human interests. Cultured, scholarly, and in my opinion one of the best therapeutists that America ever has produced, he will be sorely missed. Among all the physicians I ever have known, there is no more concrete example of all that the physician should be than was Doctor Waugh. Wise counsellor, loyal and steadfast friend of mine for more than a quarter of a century—words cannot express my consciousness of personal loss.

G. FRANK LYDSTON.

Chicago, Ill.

A TRIBUTE FROM TEXAS

Notice of Doctor Waugh's death came to me as a shock, notwithstanding the fact that I have known of his serious illness for some months past.

My really more than friendly relations with Doctor Waugh commenced nearly a quarter of a century ago and during a large portion of the time we were coworkers in the cause of more accurate therapy and in teaching the use of the active principles in the place of crude drugs or galenical preparations of crude drugs. Our friendship has only ended with his death; nevertheless, his memory will always be held in dear esteem by me.

Doctor Waugh had a lovable disposition and was at all times ready with earnest and learned counsel to aid the coming doctors in the difficult tasks before them as well as giving those in practice the benefit of his knowledge. His writings, which were voluminous, showed erudition, force and logic.

My sincerest sympathy is extended to his wife and family.

W. T. THACKERAY.

Fowlerton, Tex.

DOCTOR WAUGH AS A PATIENT

It is a little over a year that Doctor Waugh one day came to my desk and, by way of salutation, inquired: "Do I look like a man who has had the sentence of death passed upon him?" I started to turn aside the question with some half jocular remark, but, something in the doctor's at-

titude forbade. He went on: "They have just made a diagnosis of cancer." It seems that for some time Doctor Waugh had not felt well, indeed, had been losing strength and, on consulting some of his colleagues and friends, several enlarged inguinal glands were found as well as an enlarged prostate and certain rectal anomalies that aroused suspicion of malignant disease. The diagnosis was not final, however, and the doctor returned to his summer home in Muskegon, Michigan, near which, at Idlewilde, he was then staying.

Until that time I had known Doctor Waugh as a colleague; not very well, because of his frequent and continued absence from Chicago, but, always pleasantly. There had been some interchange of ideas, mostly concerning questions of editorial policy and contributions. He had asked me to lecture to his students on the subject most familiar to me and we had come in such contact as was natural under the circumstances.

After his return to Michigan, his hitherto frequent contributions to CLINICAL MEDICINE became less; instead, his letters told of increasing weakness amounting to debility. At times, much discouragement could be read between the lines.

Last December, Doctor Waugh came to Chicago and entered the Jefferson Park Hospital for observation, where he was under the care of Dr. John Dill Robertson. The latter and also Dr. G. Frank Lydston, who had been consulted some months earlier, took Doctor Waugh to Dr. Frank H. Blackmarr to ascertain whether anything could be done toward arresting the pathologic process by means of radium and x-ray treatment. In the course of a week or two, a marked improvement became manifest; the doctor became more cheerful and asked for something to do. Naturally, I had been to see him repeatedly, partly friendly visits, partly on editorial matters; when, finally, Doctor Waugh decided to move on the north side in order to be near to the CLINIC office—since he had to remain in Chicago anyway, being obliged to forego his annual flitting to the Gulf. He moved into an apartment in the same house in which I then lived in order to be near me.

After this, I saw Doctor Waugh daily, paying two and three and even four visits a day as his condition demanded, or as his personal wishes seemed to indicate. The improvement that declared itself so surprisingly continued with a few interruptions through the winter. Of the interruptions, I may mention an attack of persistent and annoying hiccup which continued without remission for seven days, resisting every means and measure that we might advise toward its suppression. Several months later, a similar attack persisted for ten days. Strangely enough, the hiccup was apparently without reason and without leaving the patient appreciably weakened. Another intercurrent attack was one of profound toxemia giving rise to chills, vertigo, vomiting and desperate malaise. Fortunately, an energetic cleanout arrested this train of symptoms and, with the overcoming of the strain, Doctor Waugh regained not only a considerable degree of strength and good spirits but also his old love of work. He was untiring in his demands for it, asking for a stenographer almost weekly to whom he dictated many editorial and other articles as well as a goodly number of personal letters. It gave him great pleasure to read proofs for me, and he was happy in the consciousness of being of some service—to be not quite laid on the shelf.

During this time, he enjoyed occasional rides in the automobile, some of which took the direction of Doctor Blackmarr's office where he received x-ray treatment as often as it was possible to take him. The radium treatments were continued at his house, through Doctor Blackmarr's kindness who loaned the necessary material.

During this entire time, occasional intercurrent symptoms demanded attention, such as, failure of the liver to function, an ever-present tendency to constipation, the inability of the stomach to take care of solid food, and in part, no doubt, the various vagaries and notions that hardly can be dissociated from a condition of chronic invalidism. Fully realizing the seriousness of his condition, and while appreciating the purpose of his physicians who informed him that he was improving, he never lost sight of the fact that his trouble undoubtedly was malignant and that ultimately it would terminate his life. The only definite thing that he would admit was that apparently the malignant process

had been arrested. Yet, he was anxious to live a while longer, to continue in his very happy family life and among his friends who came to see him and who wrote to him.

During June and the succeeding months, a good deal of bladder distress appeared. For many months the use of the catheter had been unavoidable with the exception of a very brief time last spring. Under the circumstances, some infection could not be prevented, although this could be controlled by occasional washings of the bladder together with hexamethylenamine and arbutin. During August, however, this trouble became quite severe and, while some light remissions occurred, there never was a complete abatement; gradually Doctor Waugh lost strength to such a degree that the outlook became extremely serious and finally hopeless.

During the entire time of my attendance upon him, pain from the malignant growth happily was absent, except for occasional discomfort along the course of the descending colon where seemingly a small active process persisted. Nevertheless, it was found that sleep was unsatisfactory and was followed by a degree of mental torpor the next morning, unless it was induced by an opiate. If this was done, the patient felt refreshed and rested in the morning, often eating with appetite and enjoyment, until the very last few weeks.

Then, during the last few days when bladder distress was intense, there was really not much pain. The patient simply became worse generally, independent motion became impossible, and, finally, complete torpor and coma set in which closed the scene and rang down the curtain.

One outstanding feature that impressed me especially was Doctor Waugh's ineradicable optimism. There was no letup in his varying cheerfulness, in his kindly interest in the events and happenings, not only in the editorial offices, but, also and particularly in the world-war. Recent events cheered the patient more than anything else. He watched the progress of the American armies and their allies with the closest interest, reading eagerly four and five papers daily and commenting upon the successes, while every now and then descanting upon the excellence of his own beloved American Navy.

A characteristic of Doctor Waugh's kindly, courageous nature was his frequent remark on greeting the writer: "Well, doctor, I have absolutely nothing to kick about." It was only during the worst and most distressful periods of the attacks of hiccups that Doctor Waugh lost patience, and then he declared humorously that the hiccup became less when he started to cuss.

Altogether, Doctor Waugh was a model patient, discussing his symptoms and any remedies suggested for their relief with objective interest and wisdom and submitting to all measures undertaken for his relief—even if they were unpleasant. With the utmost good nature, he offered the invariable remark: "Doctor, it is entirely up to you." I deemed it a privilege and an honor to be Doctor Waugh's physician in charge and only wish that it might have been possible to give him more relief than could be done.

One other point: Doctor Waugh was much cheered and pleased by letters that came to him from friends all over the country—some of whom he knew only through correspondence. It goes without saying that innumerable suggestions were offered; some "sure cures", remedies that were "quite certain to remove the trouble" —at least in the opinion of the writers.

While it manifestly was impossible to adopt every suggestion that was made, yet, they all were considered carefully, and Doctor Waugh and the writer had many interesting discussions as to the probable and possible action of some of the remedies suggested. Even if the adopted course of treatment had to be continued for good and sufficient reasons. Doctor Waugh deeply appreciated the kindly intention that prompted his many friends to offer advice.

H. J. ACHARD.

Chicago, Ill.

AN APPRECIATION OF DOCTOR WAUGH

I was horrified this morning on picking up my paper to see the announcement of the death of William F. Waugh, M. D. He was dear to us all and especially to those who had colabored with him

alone the line of plant therapy. It seems too bad that such a useful life should be done so early. In his last letter to me, not long ago, he seemed full of pleasantries and much hope for the future. He has always been my nearest adviser and in my extremities has always had a cheerful word, while his council has kept me comfortable in these four years of great distress. A dear, good, kind and constant friend is gone. In my sorrow and bereavement I extend to his family my sincere sympathy and condolence.

G. L. B. ROUNSEVILLE.

Mattoon, Ill.

PERSONAL OBSERVATIONS ON CANCER

No clinical records compare in value with those made by physicians upon their own cases; which is well illustrated by what I am going to set down here. For, although, since my graduation in 1871, I have been quite a busy man as a clinician, student, teacher, and writer, I have learned so many things about abdominal cancer in studying my own case that I can not but think that some at least of our readers may get some instruction from this record.

I had had prostatic trouble for about two years, but, this is so common in men of my age (68 years) that it occasioned me no apprehension. However, along during the winter of 1916 and 1917, I noticed a growing debility for which I could find no adequate cause. This condition, I have always taught my classes, should arouse the suspicion of cancer developing in some one of the internal organs, especially the liver and those beyond the reach of physical exploration. Yet, this was merely a vague suspicion on my part.

In April, 1917, I left my Texas winter home and came north. Stopping at Chicago, I asked Dr. G. Frank Lydston to investigate my trouble. He at once pronounced it abdominal cancer. I was astounded! Doctor, you know yourself what that means. We all are aware that here and there people do have cancer; still, we look on it as a thing detached and remote. That we ourselves should be so affected, seems almost unthinkable. It took me six months to assimilate this idea.

Then I came to Chicago and placed myself under the care of Dr. Frank H. Blackmarr, whose remarkable work in treating cancer with radium and allied agencies was attracting attention in the highest quarters. His success is due, not so much to the radium, as to the methods of application he has developed. Since beginning his treatment, the growth of the tumors seems to have entirely ceased and they have been retrograding in size. What is most remarkable, I have not suffered actual pain directly attributable to the cancer ever since Doctor Blackmarr took charge of my case.

However, there evidently is a progression in some respects, for, the following phenomena may be listed:

1. There has been increasing debility, until now I am not able to lift myself from a sitting position without the assistance of my arms to reinforce my tottering legs, and I can not rise from a kneeling posture without assistance. Just why debility should progress when its cause has improved, I do not know.

2.—The prostatic enlargement has diminished; however, I still am compelled to employ the catheter, and vesical stress comes on whenever I stand up. Slight catheter cystitis exists, as a matter of course.

Incidentally, here is an interesting observation: On riding to Doctor Blackmarr's office for treatment or to some other place, the vesical stress appears as soon as I leave the car. If, however, I place under the tongue, about three or four minutes before arriving, one granule each of glonoin (1-250 grain) and atropine sulphate (1-500 grain), I feel no discomfort.

3. The tumors seem to spring from the tissues of the back and do not affect any part of the digestive system (except, possibly, the liver). The inguinal glands on both sides are much enlarged and sections from one of these submitted to three pathologists gave the final certainty to the diagnosis.

4. Emaciation is extreme. I believe there isn't a particle of fat left in my body; and this occasions most of my suffering, since resting on the bare bony prominences is very uncomfortable. In fact, this appears to have set up a little periosteal inflammation in the left hip-joint. By shifting about from pillow to rubber ring, the annoyance is considerably reduced.

5. Whenever solid matter forms in the bowels, it occasions pain and distress by pressure on the carcinomatous masses, so

that elaborate and painstaking care is called for to keep the large bowel empty.

6. For months, desire for food has been totally absent. Food is taken perfunctorily, and then usually liquids alone; although I try to eat a little solid food, possibly half a cracker with each glass of hot salted milk, malted milk, junket or kumiss.

7. Of intercurrent attacks, the most dreadful were two of hiccup, one lasting a week, the other ten days, with hardly any intermissions; the paroxysms developing indiscriminately during sleep or when awake. They were simply terrible, resisting all attempts at alleviation, and once, the distress prompted me to beg Dr. Achard for euthanasia.

8. For some time, there were attacks of moderate jaundice, occasioning absolute nausea at the thought of food, but, these seem to have stopped.

9. There was one week of fever of medium intensity, apparently owing to fecal autotoxemia, and subsiding as this was remedied.

10. Twice there were attacks of vertigo, so severe that I was compelled to have my eyes bandaged, as I could not endure it when they were open.

11. Edema of feet and legs appeared, endured some weeks, then subsided, without apparent occasion either for coming or going.

12. The weakness has been most decided on the left side, especially in the left leg. This side, however, has been weaker than the other ever since an attack of yellow-fever I had at Rio Janeiro, while in the Navy in 1875.

13. The blood-counts have been excellent, the hemoglobin rising. Doctor Abelmann gave five blood transfusions. Doctor Blackmarr put me on hypodermoclysis of sea-water.

14. For several weeks, I have been taking a single dose of morphine at bedtime, 1-2 grain. From this, I am getting remarkable results. Relief from discomfort is perfect and there are no unpleasant effects afterward. In former years, I used to take a fourth of a grain occasionally, to break up a cold, and this was always followed by a headache so intense that I learned to prefer to let the cold run its course. No unpleasant symptoms follow now. Quite often, after taking the dose, I dream of great eatings with a wolfish appetite. Perhaps it is a turkey dinner with fixings or the steamed oysters we used to get for lunch at the old Astor House in New York. I am liable to feel hungry then, when I awake from such a dream, and, at any rate, my digestion is better the day after taking this dose of morphine. Several times the attempt was made to use other hypnotics in place of morphine, but, with so discouraging results that we have decided to stick to the latter. This is, of course, quite proper, because there can be no question of morphine-addiction in a case like mine.

15. I am troubled with heartburn and waterbrash. But, this is an old story and an inheritance. Bulkley, however, lays emphasis on this as a carcinoma-characteristic. Full doses of light magnesia give some temporary relief.

What the final result will be, I do not know. Doctor Robertson says I should have been dead months ago but for Doctor Blackmarr's treatment, and this I fully believe. My case seems to be a race between the retrogression of the tumors under radium and a still increasing weakness. I am taking a little hyoscyamine to soothe the irritable bladder, and this it does effectually. Even more effectual in this respect is cannabis indica, an excellent preparation of which was sent me by my old friend John Uri Lloyd. A full dose of this, however, occasions a very peculiar delirium, supervening during the sleep that follows.

The Psychic Element—I fear that this article would be incomplete without a reference to the very peculiar psychologic condition of this patient. How does it feel to be affected yourself with this awful disease? Well, I am as happy as the day is long! In fact this is the happiest period of my life since childhood. I have grown curiously emotional and the tears lie very close to the surface. My heart is constantly filled with gratitude to God for the blessings he has showered upon me. Everybody is so good to me. My family keep me enveloped in an atmosphere of love and devotion. Every need is gratified and every whim, of which there are many. Old friends and people I never heard of seem to vie with each other in doing me kindnesses, and the letters I receive are simply charming. They come from all quarters and even from Kentucky. Let

this be my acknowledgment since I am unable to reply to them otherwise.

WILLIAM F. WAUGH.

Chicago, Ill.

[This account was written by Doctor Waugh about one month before his death. —Ed.]

NURSES ARE NEEDED

Surgeon-General Gorgas has called for 1,000 nurses a week, adding that by January 1 not less than 25,000 graduate nurses must be in war-service—in the Army Nurse Corps, in the Navy Nurse Corps, in the U. S. Public Health Service, and in Red Cross nursing. Obviously, this involves withdrawal of many nurses from civilian practice and, hence, necessitates strict economy in the use of all that will remain in the communities.

The physicians of America can help get these nurses for our sick and wounded men by:

Bringing this need to the attention of nurses; relieving nurses where possible, wholly or in part, from office-duty; seeing to it that nurses are employed only in cases requiring skilled attendance; insisting that nurses be released as soon as need for their professional service is ended; seeing to it that patients enter hospitals, instead of monopolizing the entire time of individual nurses; encouraging people to employ public-health nurses; instructing women in the care of the sick; inducing highschool and college graduates to enter the Army School of Nursing or some other recognized training school for nurses.

Encouraging nurses to go to the front involves real personal sacrifice and added work on the part of the physicians whose duty it is to maintain the health of our civilian second-line defense.

However, the men that are fighting for their country in France need the nurses.

DEPARTMENT OF NURSING, AMERICAN RED CROSS,
Washington, D. C.

SPANISH INFLUENZA

If we may believe the newspapers, the pandemic of influenza which has swept over Europe during the last summer has at last reached the United States. We hear reports of the outbreak of the epidemic in Boston and of the appearance of the disease in many of our military and naval camps. Whether this is the genuine "blown-in-the-bottle" type of the disease, or whether Spanish influenza differs in any essential respect from the ordinary form, we are not now prepared to say. We leave the matter for the future, and the family of CLINICAL MEDICINE to decide.

The bacteriologic cause of Spanish influenza still is a matter of dispute. The prevailing opinion in Europe is, that the bacillus of Pfeiffer (influenza bacillus) is at least a factor in the majority of cases, but, in many instances observers have failed to find this organism at all. Some ascribe the disease to the pneumococcus, others to the micrococcus catarrhalis, still others to streptococci, while not a few believe it to be a mixed infection.

The symptomatology of the disease is briefly epitomized by Gotch and Whittingham, in *The British Medical Journal*, as follows:

"Incubation period one to two days. Duration three to five days, the five-day fever type being more severe and the casts found in the urine more numerous.

"The chief symptoms are: (a) Body pains, (b) malaise, (c) headache, (d) anorexia and constipation, (e) cough, (f) photophobia.

"The chief physical signs are: (a) High temperature with maximum reading on the second day, (b) tongue heavily coated, (c) acute pharyngitis, stomatitis, gingivitis, and conjunctivitis, (d) albuminuria with hyaline and granular casts.

"Blood counts show leukopenia with relative neutrophilia at the height of the fever."

As indicated above, kidney complications are rather common, albumin being present in 50 percent of the cases, and casts in 85 percent of the five-day type cases. The onset usually is very abrupt, while, in the majority of cases, the course of the disease is relatively mild. The death rate has been very small, although the mortality in cases in which pneumonia develops has been high. The temperature rises rapidly and usually is highest on the second or third day, 103° F. or more being common. The course of the disease averages about five days, although it is sometimes some-

what shorter. The pulse is relatively slow.

There is no general agreement as to the best method of treatment. Most observers, however, state that quinine is of no value and may be harmful, while decided relief follows the administration of aspirin, salicin and other salicylates. Since the disease probably is conveyed by the secretions of the nose and throat, washing out the mouth and spraying the rhinopharynx with antiseptic solutions are suggested.

So much for the reports. In view of the very remarkable success obtained by Woolley at Camp Greene, and by McCord, Friedlander and Walker at Camp Sherman with the Dakin antiseptics when employed for the prevention of meningitis, diphtheria and other diseases conveyed by rhinopharyngeal secretions, it is reasonable to hope that equally good success will attend the adoption of the same routine in Spanish influenza. In view of the rapidity with which this disease goes through a camp or community, the method deserves a trial and we urgently recommend it to our readers. The routine employed at Camp Sherman was, gargling or washing out the throat with a 0.25-percent solution of chlorazene, following with sprays of 2-percent dichloramine-T-chlorcosane solution to the nose and throat. By this medication, the upper air passages are kept constantly bathed with an antiseptic that can be depended upon to destroy any of these organisms and prevent their development—if anything will do this. The same treatment should be effective in modifying the course of the disease and in preventing its spread to exposed persons.

For the relief of pain, the aspirin as used in England and on the continent undoubtedly should prove effective. Decided relief ought to follow the use of the defervescent compound (aconitine, digitalin and veratrine), while the use of iodized calcium, alone or in combination with calcium sulphide, by mouth, should inhibit the development of the disease.

Bacterin therapy should have both a prophylactic and curative value, and combinations of the influenza bacillus, pneumococcus, streptococcus, and the micrococcus catarrhalis have, we understand, been employed in Europe with satisfactory results.

Doctors should "soft-pedal" any panicky feeling on the part of their neighbors. Spanish influenza sweeps through a community quickly. So does any other epidemic of colds. While the disease undoubtedly has a depressing effect, as is the case with the variety of grip with which we renew our acquaintance every winter, the mortality has been exceedingly small; in fact, Spanish influenza is not to be dreaded any more than American influenza, and, if people will learn to take reasonable care of themselves, to stay in bed if they are attacked, to keep the rhinopharyngeal passages clean and antiseptic, and avoid unnecessary exposure, and, particularly, guard against exposing others, they can feel reasonably sure of getting through the coming winter as comfortably as they did the last. Pneumonia is the complication to be feared; and, it is a frequent one, in this country.

Of course, we hope every reader of CLINICAL MEDICINE who has made the acquaintance of genuine Spanish influenza will tell us about it.

THE VOLUNTEER MEDICAL SERVICE CORPS

The Central Governing Board of the Volunteer Medical Service Corps of the Council of National Defense announces that the Illinois State Executive Committee of the Volunteer Medical Service Corps is comprised of the following doctors:

Carl Black, M. D., Chairman, Jacksonville.
Joseph P. Cobb, M. D., Secretary, 2811 Cottage Grove Ave., Chicago.
Clarence A. Earle, M. D., Des Plaines
A. Augustus O'Neill, M. D., 4607 Champlain Ave., Chicago.
William L. Noble, M. D., 32 North State St., Chicago.
Thomas J. Watkins, M. D., 104 S. Michigan Ave., Chicago.
D. A. K. Steele, M. D., 30 N. Michigan Ave., Chicago.
W. A. Evans, M. D., 7 S. Dearborn St., Chicago.
L. L. McArthur, M. D., 122 S. Michigan Ave., Chicago.

The purpose of this Committee is, to cooperate with the Central Governing Board in prosecuting all activities pertaining to the mobilization and enrollment of members of the Volunteer Medical Service Corps throughout the state.

The Central Governing Board of the Volunteer Medical Service Corps also authorizes the appointment of one county representative in each county in every state of the Union.

The Organization of the Volunteer Medical Service Corps enables the authorities

to mobilize to the best advantage all physicians of the country, in order to satisfy the requirements of the civil population, as well as those arising directly from the war. Physicians are urged to apply for membership in this organiaztion.

A SERMON FROM THE "FIRING LINE"

The rain is falling monotonously. It is dreary without, but, seated in comfort by a bright light, I have been entertaining as well as instructing myself by reading CLINICAL MEDICINE, my old favorite and friend. It is a habit of mine at leisure moments to pull, at random, a number from the pile, and almost always I find it full of practical suggestions. Tonight, I happened to select the February, 1918, number, and soon received quite a pointed reminder of duty, in having failed to send in a report from the "firing-line", after the editor had accorded me the honor of editorial comment on my criticism of CLINICAL MEDICINE'S past status with its present, in reference, especially, to the dearth of clinical reports, with its former abundance and variety.

I was pleased to find that my little shell, cast at random, had evoked a response in kind from distant Canada. Though near to you, in Chicago, you must admit that from South Carolina to Canada is a long shot. I sincerely hope that it may promote thought and incite action in many others of the readers of CLINICAL MEDICINE. So many of us should feel under the obligation of gratitude to make a fair and just return in kind for the benefits received from it. Such a course would enrich the journal and also would add to the education, confidence, and self-satisfaction of the writers.

Brethren, let us wake up and realize that THE CLINIC is *our* journal! Let us, from our abundant experience at the bedside of the sick, enrich it with our clinical reports of "approved findings". A chance group of doctors rarely converse a brief time but that each one contributes much of value to each other out of the storehouse of mutual knowledge and experience. Just jotted down informally, this would make instructive reading for our brothers through the medium of CLINICAL MEDICINE. "But, I can't write, can't write well." Nonsense, jot down the facts briefly and clearly, just as you would tell them to your medical chum, and the editor, if need be, not only will rewrite your articles, but, he will be glad to get them, too.

We are out on the firing-line in active daily personal contact with the enemy—disease—and have the advantage of the editor, who is confined to his desk, in seeing and doing all the little and the big things of the practice of "up to date" medicine, in verifying our themes and testing out crucially our knowledge in the fierce conflict with disease and death. Let me reiterate it. Let me proclaim it with the shell-blast of the clarion of truth, and let its glad sound penetrate to the farthest lands and the remotest recesses of our great America, and cross the oceans and reach every subscriber and chance reader on earth's farthest shores.

CLINICAL MEDICINE is preeminently and essentially *our* journal, is now and will be just what we elect to make it. Then, let each one of us feel and discharge to the utmost his personal duty and obligation as contributors to make it more and more the very journal we desire, the very mirror of the best thought, and the rarest and ripest clinical experience of the more than thirty thousand physicians that constitute the vast and widely diffused family of subscribers for CLINICAL MEDICINE. The peers of any, and practical progressive physicians that still believe "in drug-healing" and have not surrendered to Osler or the laboratory, that still have the temerity to believe that "there is a balm in Gilead" and still believe in the simple and humble office of the hyssop that springeth from the wall and in the paste of figs that healed Hezekiah's carbuncle.

L. B. BATES.

St. Matthews, S. C.

[Thank you, doctor! That is well put. We hope that many will respond. You are appointed a committee of one, to start the ball rolling with a clinical report.—ED.]

MOBILIZATION OF WOMEN PHYSICIANS FOR ANESTHETIC SERVICE

Every effort is being made to keep war surgery at top-notch efficiency and to provide every wounded doughboy with safe, rapid and comfortable anesthesia both at

the Front and in the Hospitals in "Blighty."

In this connection the following telegram is self-explanatory:

(Copy)
Washington, D. C.,
Sept. 18.

Dr. F. H. McMechan,
Avon Lake, Ohio.

Proceed at once to secure qualified women physician anesthetists under 45 years of age and of mental poise, as well as young women graduates who are competent for such service.

(Signed) Dr. Franklin Martin (per)
Dr. Emma Wheat Gillmore.
Chairman: Women Physicians' Committee, Council National Defense, Medical Section.

Those women physicians who are qualified for anesthetic service or who are competent to be intensively trained are requested, at once, to get in touch with the undersigned.

F. H. McMechan,
Avon Lake, Ohio.

UMBILICAL HEMORRHAGE

To the general practitioner, umbilical hemorrhage of the newborn occurs but rarely, although a study of recent exhaustive literature upon this subject brings forward abundant evidence of the importance of definite care in ligating and, during the first ten days of infant-life, dressing the navel-cord stump.

The manner in which umbilical hemorrhage can be checked, even though no ligature is applied, is explained by Cullen in his "Diseases of the Umbilicus," on page 107, where we are told that "the inner longitudinal coats contract, after the cord is cut, and thicken; thus tending to close the lumen of the vessels."

Probably, were the cord bitten through, as is done by animals, rarely would an unligated navel-stump bleed dangerously; the severance of the cord with a sharp scissors, however, renders necessary its careful ligation, in order to protect the child.

The busy physician securely ligates the cord with "neverslip" ligatures, and feels easy in retiring from the bedside, so far as hemorrhage from the navel is concerned; but, widely gathered clinical data prove conclusively that the greatest danger from bleeding occurs from the fifth to the fifteenth day, and that it occurs from causes not connected in any manner with the primary ligation.

As a primary cause of umbilical hemorrhage following the desiccation of the cord, a faulty condition of the blood and a pathologic condition of the vessel-walls (hemophilia) are first. Anemia in the mother, owing to any cause, to a certain degree, produced a like condition in the child.

Without any warning, the clothes are found soaked with blood. The most dangerous hemorrhage occurs at night, and the highest medical authority, based upon years of hospital observation in hundreds of cases, shows, how great is the danger to infant-life, in the statement that 9 out of every 10 of these little patients, whether in the hovel of the poor or in the mansion of the rich, perish.

Runge, in "Septic Diseases of the Newborn," says that septic diseases have been proved a direct cause of idiopathic bleeding at the navel. In his "Diseases of the Umbilicus," Cullen declares that our hope for the future seems to lie—in large measure, at least—in bringing about a coagulation of the blood. The condition, in some cases, at least, being analogous to melæna neonatorum, a practical line of treatment should be sought for in this direction.

From the writer's limited experience, he is assured that phosphorus 6x and 30x, given alternately every two hours, with a compress of hamamelis virginica applied to the bleeding navel, will render valuable and prompt service.

PROCAINE AND NOVOCAINE IDENTICAL

It appears that in certain quarters the attitude is taken that the local anesthetic sold as procaine is not identical with that marketed as novocaine. The Subcommittee on Synthetic Drugs of the National Research Council believes it important that this misunderstanding should be corrected, and, hence, offers the following explanation:

The monohydrochloride of para-aminobenzoyldiethyl-amino-ethanol, which was formerly made in Germany by the Farbwerke vorm. Meister, Lucius and Bruening, Hoechst a. M., and sold under the trade-marked name of novocaine, is now manufactured in the United States. Under

the provisions of the Trading-With-the-Enemy-Act, the Federal Trade Commission has taken over the patent that gave monopoly for the manufacture and sale of the local anesthetic to the German corporation, and has issued licenses to American concerns for the manufacture of the product. This license makes it a condition that the product first introduced under the proprietary name "novocaine" shall be called procaine, and that it shall in every way be the same as the article formerly obtained from Germany. To insure this identity with the German novocaine, the Federal Trade Commission has submitted the product of each firm licensed to the A. M. A. Chemical Laboratory to establish its chemical identity and purity, and to the Cornell pharmacologist, Dr. R. A. Hatcher, to determine that it was not unduly toxic.

So far, the following firms have been licensed to manufacture and sell procaine:

The Abbott Laboratories, Ravenswood, Chicago.

Farbwerke - Hoechst Company, New York, N. Y.

Rector Chemical Company, Inc., New York, N. Y.

Calco Chemical Company, Bound Brook, N. J.

Of these, the first three firms are offering their products for sale at this time, and have secured their admission to "New and Non-Official Remedies" as brands of procaine which comply with the "New and Non-Official Remedies" standards.

While all firms are required to sell their product under the official name "Procaine," the Farbwerke-Hoechst Company is permitted to use the trade designation "Novocaine" in addition, since it holds the right to this designation by virtue of trade-mark registration.

In conclusion, procaine is identical with the substance first introduced as novocaine. In the interest of rational nomenclature, the first term should be used in prescriptions and scientific contributions. If it is deemed necessary to designate the product of a particular firm, this may be done by writing "Procaine-Abbott," "Procaine-Rector," or "Procaine-Farbwerke" or "Procaine (Novocaine brand)."

Julius Stieglitz, Chairman,
Subcommittee on Synthetic Drugs, National Research Council.

The official names so far adopted by the Federal Trade Commission are:

Arsphenamine for the drug marketed as salvarsan, diarsenol and arsenobenzol, and so on.

Nearsphenamine for the drug marketed as neosalvarsan, neodiarsenol and novarsenabenzol, and so on.

Barbital for the drug marketed as veronal.

Barbital-sodium for the drug marketed as medinal and veronal-sodium.

Procaine for the drug marketed as novocaine.

Procaine nitrate for the drug marketed as novocaine nitrate.

Phenylcinchoninic acid for the drug marketed as atophan.

AFTER-TREATMENT OF ALCOHOLIC DEBAUCH. CURE OF THE LIQUOR-HABIT

The craving for one more drink to taper off on is very interesting, especially so when the stomach is so irritable that nothing will be retained by it. The nervous system is also in this same sensitive condition, which results in uncontrollable restlessness and wakefulness.

To overcome these two conditions quickly, is of prime importance. In the first place, the patient should have absolutely no food or liquid of any kind, except cracked ice, which may be freely given until nausea and vomiting cease. Atropine sulphate, 1-250 grain, and cocaine hydrochloride, 1-64 grain, one granule of each every hour, also will help to relieve this condition. Then, for the restless and sleepless condition, there is nothing so soothing, and, in fact, acts so charmingly, as apomorphine hydrochloride, 1-64 grain, and hyoscine hydrobromide, 1-200 grain, given hypodermically. The patient will gradually quiet down and be asleep in about one-half hour. This dose can be repeated, if necessary, say, every six to twelve hours. This excellent bit of practice was called to the attention of the profession, by Dr. C. J. Douglas, in *The New York Medical Journal* for December, 1917.

These same remedies should be given by mouth, also: the granules of hyoscine hydrobromide 1-1000 grain, and of apomorphine hydrochloride, 1-64 grain, one of each every two hours, so as to keep up the effect of the hypodermic medication. In any degree of delirium, this combina-

tion of drugs will give quick relief. It will not cause any vomiting when the apomorphine is given in the small dosage named.

After the stomach is somewhat settled, the nurse is instructed to put a dash of red pepper in a cup of hot milk or broth and to give as much every two hours.

The following will soon help to overcome the desire for liquor:

Extract of nux vomica.....gr. 1-4
Powdered capsicum .....grs. 2
Put into a No. 1 capsule and dispense 24 such.

Directions: Take one capsule three or four times a day, after taking nourishment.

In a few days, the craving for food instead of liquor will be manifested. It is, however, absolutely essential that the bowels be thoroughly evacuated just as soon as possible by means of an enema and a dose of a laxative saline.

A. S. TUCHLER.

San Francisco, Calif.

FROM A PHYSICIAN'S WIFE

I take much pleasure in reading CLINICAL MEDICINE and I get many good things out of its columns. Now I will try to give you a little of my experience since my husband enlisted early in May of last year. I must admit that I did not think it necessary, he being too old to be called, while his going left me alone. He had a practice that brought him much more than would his salary. We are so prone to think of the dollar! But, when it came to the test, I could not say, "Don't go." I have helped him a great deal, so, was not ignorant about his business, as many women are. I decided to go to nursing and giving massage and vibratory treatments, with an apparatus I had represented before, and, in this way, I have helped several sufferers to get well, have kept busy, and saved $200.00 with which to buy bonds of the third Liberty Bond issue.

I should like to tell you of some of my patrons, but, that does not come in here. I work in the Red Cross, look after our grove and other property, and help some who are less fortunate than I. Taking everything I have to do, I do not have time to fret or get lonesome, however, when I do get lonely, I pick up something to read or to commit something good to memory. I also may take a walk with my dog which was devoted to Doctor. This morning, he killed the second skunk that has been after our chickens since last fall, when we went out at 3 o'clock in the morning to get that one, it having caught some of our chicks. For this second one, I had to tear up part of the garage-floor. Poor Tango got badly bitten, so, his nose is swollen. He shook that skunk just as I should delight seeing the Kaiser shaken.

I think that, so far as I am concerned —that is, taking care of myself and keeping "the home fires burning," Doctor does not worry one bit. He feels that I am doing the right thing, as I now feel that he did by going early. I venture to enclose a selection Doctor sent me, saying, he thought it very applicable to me.

I thought to miss you all the while—
Your comprehending eyes, your voice, your smile;
I steeled myself to know you far away,
And, lo, you are more near than those who stay.

I feel your presence through the toilsome hours,
Lending your strength to supplement my powers;
Almost I touch you when I stretch my hand,
I feel your kiss—dear, do you understand?

Space cannot part us, we, who have one aim,
Two who have sacrificed in Freedom's name,
But, those at home that boast no Service Star,
How far away they seem—how far, how far.

MRS. O. L. CALLAHAN.

Sorrento, Fla.

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[Our correspondent has solved her problem beautifully and we offer our congratulations. No wonder, the doctor thinks that poem especially suited to her. We should like to hear from other physicians' wives, also.—ED.]

In the World War

LETTERS FROM FRANCE—III

The report, for May, of the military-affairs department of the American Red Cross shows a great increase in the number of hospitals built and supplies furnished. Hospital No. 5, with 600 beds, which was opened on Decoration Day, is now running to the limit of capacity.

The big offensive is having its effect in all the hospitals. A new hospital of 350 beds has been opened at "somewhere in France", on the battle-line. Through this hospital, all American base hospitals thus are constantly under American medical personnel. American nurses, assisted by French-speaking American girls, have been placed in every French hospital where it has been reported that wounded American soldiers have been sent.

Six new hospitals immediately back of the active fighting-zone will soon be installed. A new hospital for the civilian population has been opened, at "somewhere in France", for the prevention of contagious diseases, which might spread to our troops.

During the month, the army has been supplied with 213,908 splints and 200 artificial limbs. During May, the French hospitals alone have been supplied with 35,900 pieces of underwear, 17,000 pairs of socks, 23,000 handkerchiefs, 13,500 towels, 4,000 pairs of boot, 11,500 pairs of slippers, 675 sweaters, 900 blankets, 145 beds, 185 mattresses, 1,800 pillows, 2,700 pillow-cases, 3,000 sheets, 7,500 tooth-brushes and 31,000 surgical dressings. It is impossible, as yet, to give any accurate figures of the quantities of supplies of all kinds distributed to the American troops and hospitals during this last offensive, as the staff in the field warehouses has been overwhelmed with work.

The reports concerning the personnel of the American Red Cross Military Hospital No. 1 having been gassed are unfounded. Several cases of grip among the nurses and auxiliaries were reported last week. Mrs. George Munroe was absent for a few days and it was thought there was an epidemic of grip in the hospital. It was afterward decided, however, that the sneezing and slight inflammation of the eyes was caused by the handling of clothes of soldiers who had been gassed, but, no serious cases were reported. No soldiers suffering from poison-gas have been brought to the Neuilly hospital recently.

Lieutenant-Colonel Bingham, of the U. S. Army Medical Corps, who has charge of the American military hospitals in the Paris zone, says that practically all of the gassed patients were being taken to the new Auteuil hospital, while Hospital No. 1 in Neuilly and Major Blake's hospital (No. 2) were handling the surgical cases. Both have greatly increased their number of beds. The Neuilly hospital, which reduced its number of beds to 700 a few weeks ago, now has 1,000 beds again, and Dr. Blake's hospital is likewise filled.

The big seminary in the Place St. Sulpice is put to a new use. It is for refugees, poor and unfortunate men and women driven from hearth and home by the unspeakable Hun and forced to flee for life and safety to parts of France where the sword and the torch have not yet invaded.

As a rule the Secours is not for keeping people in Paris. It is a sort of a halfway house for those passing through Paris on their way to settlements prepared for them. As you enter the quadrangle of the building, you see what was once a seminary, afterward a garrison, and now a refuge. You see heads of men and women popping out of windows, in some of which clothes are drying; also children, principally very young ones, playing about the courtyard. The quadrangle looks something like a collection of cafés, chairs being arranged in little squares for receiving the refugees. The colonnades are chalked with notices such as *"Voyageurs pour Orléans"*, *"Voyageurs pour P. L. M."*, *"Voyageurs sans*

Destination", and so on. These are *les rendez-vous*. Behind the colonnade, are bags and sacks of every description, mostly of the homemade variety—bicycles, baby-carriages, baskets, pillow-cases stuffed with clothes—are piled up ready for the next outgoing train.

Accompanied by Mr. du Bellet, of the American Red Cross, a visit was made to the various wards and passages where beds stood ready for occupants. All was clean and the air was circulating freely. Perfect order and system prevailed.

Copyright: International Film Service.
Dr. Joseph Blake in his office in the American Red Cross Hospital in Paris.

Everyone had something to do, and did it. Every corner of the seminary was put to some use. The chapel, for instance, was a vast wardrobe, where clothing of every kind, consisting of worn clothes given by sympathizers, was ready for distribution. The clothes are assorted in one room, cleaned in another, then mended and ironed, and placed in readiness for the refugees. They come, for the most part, at night, and they must be fed, cleaned, clothed, and housed, and then sent on their way. Last week, as many as 5,495 refugees were received at the Secours and given every hospitality while waiting for their trains to leave.

The refectories are worth seeing, especially when crowded with men and women and children. The food is of excellent quality, and includes soup, meat, vegetables, and bread, while beer and other refreshing drinks also are served. The "Oeuvre" really was founded by Messrs. Peltier and Lacote, but, latterly the American Red Cross has come into the combination and developed the Secours in that methodical and lavish way common to that great American war-charity. The Red Cross is represented by Messrs. Bernard and du Bellet, and the latter's experience as former Consul at Rheims is much appreciated at the Secours.

The American Red Cross has just been installed in the Palais Eynard, one of the most beautiful historical buildings in Geneva. It is loaned by the local authorities.

The committee consists entirely of well-known American residents in Geneva. The president is Mr. Stephen Mac Fadden, the vice-president, Dr. Charles Cumston, and the treasurer, the Rev. C. Belden, of the American Church. The Americans will aid the sick and wounded of all the Allies, also the Swiss. Later, American officers and soldiers broken down in the war will be cared for.

In addition to the work accomplished by the military-affairs department of the Red Cross during the month of May, there has been completed a recreation-station at "somewhere in France", a barracks station

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Wounded Red Cross Dog having his injuries dressed.

for the camouflage service at "somewhere in France;" an infirmary for officers and a recreation-station have been inaugurated, and a club for air-service officers has been established at the front.

In the field with army units, there are now operating three large bathing- and disinfecting-plants, seven large mobile laundry-plants, and five stationary laundry-plants. There are, also, five trains of mobile field-kitchens and four French-type

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Post Exchange at Camp Meade, at Admiral, Md.

field-kitchens, which are rendering an excellent service. Six large mobile ice-manufacturing plants have also been established, as have forty portable shower-baths and one dental ambulance.

The Hospital and Home Communication Service reports that it has now 68 representatives working with the troops in hospitals. During the same month, 1,926 requests for information about missing and wounded soldiers have been received and 1,858 reports have been made. Many photographs of American graves have been taken, which enables this department to render the greatest personal service to the mothers at home. The Home Communication Service is rapidly developing the personal side of the work, which hitherto has been lacking. The personal demands from patients in the hospital have greatly increased recently, and these small requests are being promptly attended to.

The American Red Cross Military Hospital, which was built as the Auteuil Hospital, completes the chain of the American military hospitals in or near Paris. It is Hospital No. 5 of the Paris zone. Hospital No. 1 is the former American Ambulance at Neuilly. No. 2 is Dr. Joseph A. Blake's hospital in the Rue Puccini. No. 3 is the former American Girls' Art Club in the Latin quarter, which was given by Mrs. Whitelaw Reid. No. 4 is at Juilly and was formerly Mrs. Harry Payne Whitney's hospital attached to the American Ambulance. All are now operated by the medical corps of the United States Army, under the supervision of Lieutenant-Colonel Bingham, and are furnished with supplies of all kinds by the Red Cross.

The Auteuil hospital, No. 5, is the only new one in the chain. It is a tent hospital that can be loaded on trucks and moved at a few hours' notice, though it by no means is considered a temporary affair. The tent wards are well constructed and are as comfortable as the wards in any permanent hospital, and preparations are already being made to maintain the hospital in the winter. The men that have recently been

brought in from Chateau Thierry say that they are better contented in tent wards or, more often, in the reclining-chairs between the tents, with the beautiful surroundings of the Bois, than in any of the stationary hospitals.

This tent hospital was originally intended for sick patients and not for surgical cases; but, the pressure has been so acute recently that it has been decided that cases of every kind are to be accepted there. It was first equipped with 600 beds, 24 beds in each ward; but, it has proved so entirely comfortable and has relieved the pressure on the other hospitals to such an extent that 1,000 beds now are being installed. At present, about 500 patients are being cared for, the majority of them suffering from poison-gas, while new ones are arriving daily. Major Tenowsky is the chief surgeon. The personnel is being increased as the units arrive from America. The American Red Cross erected the hospital in record-breaking time, as it was just twenty-five days from the time that the first tent was put up until the first patients were received.

The operating-rooms are steam-heated and have every convenience. There is a perfect x-ray plant, a sterilizing and fumigating plant, a splendid kitchen, and bath-rooms and shower-baths are rapidly being installed.

The old betting-booths looked queer, stocked with clothes and other Red Cross supplies; no more so, though, than did the men, in their pajamas reclining and roaming about on the grass of the one-time famous race-course. They were telling of their experience of only the week before at Chateau Thierry, but, said they had almost forgotten they had been in the war since they had been in the peaceful Bois de Boulogne. Many of them had seen the Auteuil course before, however, under quite different conditions.

B. SHERWOOD-DUNN.

Paris, France.

OF INTEREST TO HOLDERS OF LIBERTY BONDS

When the third Liberty Loan bonds were issued last spring, the interest was fixed at 4¼ percent, while the first and second liberty loan bonds yielded only 4 percent interest. The holders of the 4-percent bonds, however, had the privilege of exchanging these into those bearing 4¼ percent, thereby benefiting from the more favorable rate of the later issue.

The government bond department of the Federal Reserve Bank of Chicago announces that only about $95,000,000 of the 4-percent Liberty bonds have so far been presented for conversion into 4¼-percent bonds and that only about one-fourth of the holders of 4-percent bonds have taken advantage of the opportunity to secure an additional ¼ percent on their investment.

The privilege of this conversion expires on November 9, 1918, and the 4-percent bonds of the first and second Liberty loans can not be converted into subsequent issues of United States bonds that may be issued at a higher rate. Holders of the 4-percent Liberty loan bonds, therefore, are urged to present them for conversion, in order to secure the additional interest. It is best for bondholders to arrange for the conversion of their bonds through the bank that handled the original subscription; still, those who have changed their place of residence can, without doubt, handle the matter through any convenient bank.

In connection with this subject, we wish to express our hope that physicians who have purchased liberty bonds, no matter of what issue, will not use them as negotiable papers or, at least, will not sell them. This for several reasons. For one thing, the throwing of a large number of these bonds upon the market very naturally will depreciate their commercial value. Then, it was intended that the liberty bonds should be bought by the people, not merely to furnish the government large sums of money for the purpose of carrying on the war, but, also, in order to make available to the mass of the people an opportunity of investing their savings at the favorable interest rate, and—what is most important—with the absolute assurance that they will not lose their investment. We can hardly imagine a safer investment than the buying of government bonds, since there is virtually no possibility that the government of the United States ever will be unable to meet its obligation.

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

(Continued from August issue, page 634)

BEAR in mind two things: first, that prostitution in most of the states in the Union is not an offense at law, and, next, that the tendency of these women is, to congregate, to huddle together within a definite radius or neighborhood. Thus we have in all our cities a large number of women for hire grouped in what are known as "red-light" districts. This fact could be accentuated by municipal enactments that would make it an offense for any such house of ill-repute to be kept outside these particular, designated districts, and congregations should be converted into segregation; and this would make it comparatively easy to institute such supervision as a board of health lawfully and properly may exercise. If every physician were obliged to report every case of infection coming under his charge, it would be possible in almost every instance to locate the place of its origin and then to place the taintress in a hospital, one especially designated for that purpose. There is just as much reason—yes, far more—for so removing an infected or infectious woman as there is for removing a person having smallpox. I say, more, for, the infections through this cause are a thousand times more numerous and the peril far greater than for any other diseases.

Having smallpox is not an offense at law, either, nevertheless, those who have it can be, and are, restrained of their liberty, for the general good. Where is the essential difference? From the common-sense point of view, there is none. From consideration of public health many times more farreaching, the tainted woman should be summarily restrained just as any other infected person is; more promptly, even, if possible.

It is absolutely illogical to leave such a woman at liberty, to go on spreading disease, while those having other diseases, innocently acquired, are being isolated. It is nonsense to quote her constitutional right to personal liberty and the pursuit of happiness, when her liberty and pursuit are inimical to public health. The smallpox victim would get little sympathy for that plea. Why should the harlot? There is another thing to think of: if men were obliged to declare their associated culprits, the effect must operate as a deterrent, at least in some degree. If the associate culprits know they are going to be sequestrated, they will, in mere self-defense, at least endeavor to keep themselves clean.

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These are not nice things to talk about; but, then, the whole subject is filthy as well as sinister. That is why it should be faced squarely and the means of sanitation found and applied. We are considering how to deal with and minimize the most disgusting, insidious, degraded, and degrading of diseases, and are speaking of them as diseases and disease-questions, merely, leaving aside all their other aspects. Public health not only, but, health in the home, the lives of women and children, are in the balance, and there needs no timidity of dealing. A broad duty lies here; and, as having to perform it, plain speech is necessary.

I would go further; I should recommend that male patients be kept, so far as possible, under restriction until they are cured and it has been proven that they no longer can impart disease to others. To restrain his associate culprit and have the man free, would be to stop half way. An act of manifest negligence that would permit freedom, with all its potentialities of harm, to the really dangerous agent of contagion.

There is nothing in this suggestion that could not be wrought out to practical form by additions to the laws that protect public health, and additions to the powers *and duties* of health-officers. We have ample enactments—federal, state and municipal—for protecting the public against impure foods and drugs. Is it squeamishness

or a fear of seeming to sanction libidinous traffic that might withhold enactments against this infinitely more deadly poison? Why not see it for what it is and make laws to meet it?

I tell you again, it is first and last a disease-evil, and the question is a health-question. It never can be successfully coped with in any other understanding.

Such a system of regulation would bring the scourge down to its irreducible minimum; but, alas! it would leave untouched clandestine prostitution, one of the worst forms. That form is beyond control. It is today the secret curse of Great Britain and an agency of dire effect here in our own country. Twenty-five years ago or thereabout, the British parliament passed an act bringing houses of sex-barter under police and health control. The direct purpose of this act was, to protect the army and navy, whose hospitals were for the most part filled with venereal cases. In its short life, this law worked wonders for the men of both branches; however, it aroused such a storm of puritanical protest that it had to be repealed, and was replaced by one abolishing all such houses. Today, there is not so much as one bawdy-house in all the kingdom, but, clandestine prostitution penetrates everywhere, and in no country is there more rampant sex-disease. The music-halls, many of the public houses—bar-rooms we call them—and certain streets, squares, and theaters swarm with women who ply their trade individually. These women—of various grades, from the educated and well-seeming, to the most repulsive outcasts—have dwellings of their own, scattered almost indiscriminately throughout the cities, and they never are interfered with. The fact of their profession being ignored by law, leaves them in freedom to canker society at large, with results that are both horrible and astounding. In our own cities, there are laws against public solicitation, but, no such law can do more than impinge the outer rim of this vicious circle, and the fugacious method of the traffic would tend to keep it out of reach of any system of regulation that could be framed short of one that would create a special police and impose severe penalties, though not by fine.

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Another process of abatement, which I have named the educational, already is among the things advanced by the medical profession. The American Society of Sanitary and Medical Prophylaxis has taken it up, and many physicians are promoting it in their own practice—I might say, all. I would earnestly advise every man and woman who has the welfare of the race and nation at heart to join that society and help in organizing local branches.

Herbert Spencer, in his essay on education, gives first importance to that knowledge which relates to self-preservation or the maintenance of life and to that which relates to self-perpetuation or parentage. "Strangely enough," he says, "parents and schoolmasters take no care whatever to prepare the young for the position of parents." That is a first step, but, in taking it, we are confronted by what has been called a "conspiracy of silence." A conspiracy against, not only proper and necessary preparation of the young for the facts of life, but, against the whole subject, as one improper to be canvassed openly.

One of the most deplorable results of this reticence is, the abundance of quack literature directed to and operating upon the fears of boys and young men. Millions of dollars have been taken by the unscrupulous persons who are engaged in this criminal and especially detestable business, and incalculable harm has been done. This is one of the first things to be attacked. I am not going to take time to go into details, but, it is safe to say every man who retains at all a memory of his teens can recall experiences of his own that will point my meaning. I am glad to be able to say that all reputable publications have barred advertising of this kind from their pages, yet, there still remains an endless chain of lists of names by means of which impure and vicious printed stuff is sent to boys through the mails. It is the obvious duty of every father and mother who finds any of this stuff mislaid about the house to notify the postoffice authorities at once, and to help to have it stopped. Such finds will not be frequent, for, almost invariably the application is made in secret or under a false name. I do not advocate espionage, still, I do advise an outlook for things of this kind.

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I do not advocate sex education in the home further than it is normally practiced

in all sensibly conducted families, but "good education is better than bad," and the bad is sure to be acquired. Therefore, let us attempt to substitute the good.

A knowledge of the risks of disease by sexual indulgence, both in and out of marriage—and, indeed, apart from this altogether—is a stage of that sexual education which must begin, so far as the elements are concerned, at a very early age. Information about venereal disease should not be given until adolescence. It is unnecessary and undesirable to impart medical knowledge to young boys and girls and to warn them against risks to which they are as yet little liable to be exposed. It is when the age of strong sexual instinct, actual or potential, begins that the risks under some circumstances of yielding to it need to be clearly present to the mind.

No one who reflects on the actual facts of life ought to doubt that it is in the highest degree desirable that every adolescent youth and girl ought to receive some elementary instruction in the general facts of venereal disease, tuberculosis, and alcoholism. These three "plagues of civilization" are so widespread, so subtle, and so manifold in their operation that everyone comes in contact with them during life, and that everyone is liable to suffer, even before he is aware, perhaps hopelessly and forever, from the results of that contact. Vague declamations about immorality and still vaguer warnings against it have but little effect and possess no meaning, while rhetorical exaggeration is unnecessary. A very simple and concise statement of the actual facts concerning the evils that beset life is quite sufficient and adequate and quite essential. To ignore this need, is only possible to those who take a dangerously frivolous view of life.

It is the young woman as much as the youth who needs this enlightenment. There are still some persons so ill-informed as to believe that, though it may be necessary to instruct the youth, it is best to leave his sister "unsullied," as they consider it, by a knowledge of the facts of life. This is the very reverse of the truth. It is desirable, indeed, that all should be acquainted with facts so vital to humanity, even although not themselves personally concerned. The girl, however, is even more concerned than the youth. A man has the matter more within his own grasp, and, if he so chooses, he may avoid all the grosser risks of contact with venereal disease. It is not so with the woman. Whatever her own purity, she cannot be sure that she may not have to guard against the possibility of disease in her future husband, as well as in those to whom she may entrust her child. It is a possibility which the educated woman, far from being dispensed from, is more liable to encounter than is the working-class woman; for, venereal disease is less prevalent among the poor than the rich. The careful physician, even when his patient is a minister of religion, considers it his duty to inquire whether he has had syphilis, and the clergyman of most severely correct life recognizes the need of such inquiry and seldom feels himself insulted.

It must be clearly understood that these talks are of medical, hygienic, and physiological character; they are not to be used for retailing moral platitudes. To make them that would be a fatal mistake. The young often are very hostile to merely conventional moral maxims and suspect their hollowness—not always without reason. The end to be aimed at here is enlightenment. Certainly, knowledge never can be immoral; however, nothing is gained by jumbling up knowledge and morality together.

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In emphasizing the nature of the physician's task in this matter as purely and simply that of wise practical enlightenment, nothing is implied against the advantages and, indeed, the immense value in sexual hygiene, of the moral, religious, ideal elements of life. It is not the primary business of the physician to inspire these, but, they have a very intimate relation with the sexual life, and every boy and girl at puberty (and never before puberty) should be granted the privilege—not the duty or the task—of initiation into those elements of the world's life which are at the same time natural functions of the adolescent soul.

Here, however, is the sphere of the religious or ethical teacher. At puberty, he has his great opportunity, the greatest he can ever obtain. The flower of sex that blossoms in the body at puberty has its spiritual counterpart which at the same moment blossoms in the soul. The churches, from of old, have recognized the re-

ligious significance of this moment, for, it is this period of life that they have appointed as the time of confirmation and similar rites. With the progress of the ages, it is true, such rites may, to some, become merely formal and apparently meaningless fossils. But, they have a meaning, nevertheless, and are capable of being again vitalized. Nor in their spirit and essence should they be confined to those who accept supernaturally revealed religions. They concern all ethical teachers, who must realize that it is at puberty that they are called upon to inspire or to fortify the great ideal aspirations which at this period tend spontaneously to arise in the youth's or maiden's soul.

This great fact of life—which nature has commanded and in the beasts is mere brutal instinct, which in man has uprisen into love, giving us hope by this rising from the dead that love is the revelation to man of the nature of the Deity—must be acknowledged to be divine, and not bestial. When once this truth shall be believed, then no father will let his son go into the world untaught at home; but, he will himself teach him the greatest of the miracles of life, how a brute fact has been made holy. The son will go forth then conscious of all the obligations of love, taught to live a clean life, such as he believes his mother and sisters lead, such as he will demand of the girl he is to marry. And, with cause for thankfulness and praise, the father will have the joy and gladness that come from having done his duty.

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Above all things, if we are to make headway against this monstrous enemy, side considerations must be left out, and widely organized effort toward regulation and education must be brought into force. Again I emphasize it as a disease-evil, distinctly so. Moral effort is well enough, and, if those who can not bring themselves whole-heartedly to combating it as a disease-evil wish to employ their forces in moral suasion or to counsel for the young, will get together with their clergymen to that purpose, they may develop an auxiliary form of aid that would be valuable.

Any attempt, however, to separate morality from sensuousness will not accelerate development, but, only retard it, since the transplantation of sexual emotion to a soil other than that of the senses is an impossibility in our present earthly conditions. The demand for purity which aims at nonsensuousness or supersensuousness may, perhaps, provide protection from minor dangers; in great ones, it will be as futile as a hedge against a forest fire.

No obstructing of appetite, but, only their relief in other directions can really purify them. Passions can be curbed only by means of stronger passions. In the same appetite and the same passion in which the danger lies, in the instinct of Love itself, we have the true starting-point for it. He to whom the destruction of this instinct is a passionate desire possesses in this passion itself a prospect of attaining his unnatural end. He, again, who does not wish to kill, but, only to control the sexual instinct will become, in his struggle against this desire, still immeasurably stimulated through heredity and social custom, a strong and proud conqueror when he imagines and finally experiences unity in love. The prejudice originally fostered by Christianity, that sexual purity is, in itself, so great an asset of life that it outweighs the sacrifice of all others, this prejudice must be overcome. A person is estimable for sexual purity only to the extent to which it fits him to fulfil the purpose of life for himself and for the race, that of leading an ever higher life.

[*To be continued.*]

Among the Books

SADLER: "LONG HEADS AND ROUND HEADS"

Long Heads and Round Heads, or, What's the Matter with Germany. By William S. Sadler, M. D. Illustrated. Chicago; A. C. McClurg & Co. 1918. Price $1.00.

It is curious to find how very differently two persons may be impressed by the same thing. Thus, we read Madison Grant's "Passing of the Great Race", and our verdict was, "It was a mighty good thing for humanity that that race should pass out." Doctor Sadler, however, adopts Grant's views without any reserve. Moreover, by a most remarkable mental sommerset, he blames it all upon "the Alpines, an inferior, stupid, and nonprogressive race with an inherited tendency to cruelty, wickedness, and with no more morals than a wolf." He holds that this people has forced the Nordics to become their masters and leaders, and are, therefore, responsible for the crimes that have aroused the entire civilized world against Germany.

Now let us look into this matter a little: Under Rurik, these Nordics conquered Russia and reduced the entire Slavic people to slavery. As the boyars, they kept the Slavs in serfdom until late in the nineteenth century, long after such a condition had ceased throughout the rest of the world. Since the alleged emancipation, this slavery has continued, with little real modification, under the rule of the Tschinn. As Saxons, they raided Britain, finding that island flourishing under the civilization of the Romans. This, the invaders were no more capable of appreciating than a pack of wolves. They sacked and burned the Roman villas and in the ruins erected their rude huts. The inhabitants they found there they simply exterminated, as the gardener does the weeds. Later, when some degree of culture had been absorbed, the Saxons were, themselves, raided by some subsequent swarms of these same Nordics, under the names of Danes, Northmen, and Vikings. The latter carried on their incursions along the entire European coast, as far as Italy, sailing up the rivers and committing such frightful atrocities as to induce the insertion in the Litany, of the piteous appeal, "From the fury of the Northmen, good Lord, deliver us."

This fierce and merciless race, according to Sadler, now is compelled by the peaceful, rather sluggish Alpines to carry on the present war with a frightfulness that would make Tamerlane or Attila blush at his ineffectiveness as a horror-producer. We very much fear that Doctor Sadler has taken a hurried measurement of his own cranial angle and, finding himself dolichocephalic, tries to excuse in himself the crime of his own existence.

We freely forgive him, however, because he has given us a mass of valuable data, taken from the speeches and writings of Nietszche, the Kaiser, and other Teutonic madmen. It might have been well if this material had been published in such a shape before the war began. We should like to say, "I told you so," but, unfortunately, we didn't. Years ago, we had an uneasy feeling that there was possibly a world-danger in our tacit assent to the German claims of supermanhood, but, we didn't come out and say so.

W. F. W.

MORRIS: "THE WAY OUT OF WAR"

The Way Out of War; Notes on the Biology of the Subject. By Robert T. Morris, F. A. C. S. Garden City, N. Y.: Doubleday, Page & Co. 1918. Price $1.00.

A totally different presentation than that by Sadler (just discussed) is made by Robert T. Morris in the volume entitled "The Way Out of War". Morris looks at the question from a biologic point, and in his little volume of 160 pages furnishes material to keep fifty debating societies busy for a year. Morris is very hard to read, because every sentence is pregnant with thought and opens up vistas which

tempt the steps of the reader. You can't read him, you've got to study him. His is not a book to take with you for a rest; and the worst of it is, that it is so profoundly interesting that, like the little boy with the jar of cookies, when you once start in on it, you can not keep away.

Thirty-one years ago, Morris and the present writer were quartered in the same room of the Riggs House in Washington, during the International Medical Congress. His personality was then charming, and we have often wondered into what it might have developed. The book under discussion answers the question to a certain extent; but, if some good wind blew Robert Morris in here some day, he would surely find a hearty welcome.

W. F. W.

JOSLIN: "DIABETIC MANUAL"

A Diabetic Manual for the Mutual Use of Doctor and Patient. By Elliott P. Joslin, M. D. Illustrated. Philadelphia and New York: Lea & Febiger. 1918. Price $1.75.

This manual has been prepared by Doctor Joslin for the use of the many diabetic patients who are totally uninformed of the nature of their disease. Doctor Joslin probably has had a greater experience in the treatment of diabetes mellitus in recent years than any other physician, his textbook on the treatment of this difficult affection being one of the most useful treatises available at the present time. For this reason he is eminently fitted to present in brief manual form that information that should be imparted to the patients. The subject is presented in a strictly elementary manner. While undoubtedly of help to the general practitioner, it is even more useful as a textbook for his patients, whose intelligent cooperation it is intended to secure. Part I gives a rapid survey of the subject of diabetic disease. Part II contains an outline of the treatment of the severer diabetics, especially the technic of becoming sugar-free. Part III contains diet tables and recipes, which the author has found of value in his daily practice. In Part IV, are described the simplest tests which a physician can employ for the estimation of sugar and acid bodies in the urine, the sugar in the blood and the carbon dioxide in the alveolar air. These tests can be readily carried out.

THORNTON: "FORMULARY"

A Pocket Formulary. By E. Quin Thornton, M. D. Eleventh Edition, Revised. Philadelphia: Lea & Febiger. 1918. Price $2.00.

A pocket-formulary may be a prop for one's laziness or it may be utilized as a fruitful source of suggestions, for the purpose of refreshing one's memory, and of useful drug combinations to meet certain conditions. Thornton's formulary, which now is in its eleventh edition, has proved worthy of the favor in which it is held among physicians. It is full of valuable suggestions that are of actual service to the physician. In studying the various formulas given under the disease-names, the indications should not be neglected, because these frequently help to differentiate between a number of formulas and make it possible to apply the remedies with better success.

MEDICAL WAR MANUAL NO. 7

Military Surgery of the Zone of the Advance. By George de Tarnowsky, M. D. Illustrated. Philadelphia: Lea & Febiger. 1918. Price $1.50.

In preparing this manual, Doctor de Tarnowsky's aim was, to give a résumé of the primary treatment that, in the light of painfully acquired experience on the western front during the past three years, is proving most satisfactory in the opinion of those best qualified to judge. The author points out convincingly that military surgery differs in a great many respects from civil surgery, notably in the fact that military necessity may compel the surgeon to devote his main attention to those with minor injuries, in order to return them to the front as soon as possible, while in severe lesions, such as those, for instance, of the abdomen, it may be possible only to cleanse and dress the wounds, sending the wounded as rapidly as possible to the evacuation-hospital.

While a famous French general recently said that the integrity of an army depends almost entirely upon its medical officers, the latter never may forget the basic idea,

that they first must be soldiers and then surgeons.

"A *sine qua non* of a good soldier is, to forget—to submerge in a large degree—his individuality as promptly and as thoroughly as possible. We all become cogs in a vast machine; each cog must work harmoniously to its utmost capacity toward a common goal—victory!"

Doctor de Tarnowsky's manual covers a great many subjects as the surgeon meets them at the front, and it is excellent in its way and a useful guide for meeting emergencies.

SOME BOOKS FOR NURSES

Essentials of Dietetics: A Textbook for Nurses. By Maude A. Perry, B. S. St. Louis: The C. V. Mosby Company. 1918.

Nursing in Diseases of Children. By Carl G. Leo-Wold, M. D. With 72 Illustrations. St. Louis: The C. V. Mosby Company. 1918. Price $2.50.

A Textbook of physiology for Nurses. By William Gay Christian, M. D., and Charles C. Haskell, M. D. Illustrated. St. Louis: The C. V. Mosby Company. 1918. Price $1.75.

Surgical and War Nursing. By A. H. Barkley, M. D. With 79 Illustrations. St. Louis: The C. V. Mosby Company. 1918. Price $1.75.

Hygiene for Nurses. By Nolie Mumey, M. D. With 75 Illustrations. St. Louis: The C. V. Mosby Company. 1918. Price $1.25.

In this little collection, the publishers are presenting some excellent guides for nurses in which the information is brought up to date. All these books are well written and the subject-material is clearly and lucidly presented.

LEWIS: "HEART BEAT"

Clinical Disorders of the Heart Beat. A Handbook for Practitioners and Students. By Thomas Lewis, M. D. Fourth Edition. New York: Paul B. Hoeber. 1918. Price $2.25.

The Reviewer finds on his table two works dealing with the circulation, and one is the fourth edition of Thomas Lewis' "Clinical Disorders of the Heart Beat." This book illustrates in vivid manner the remarkable changes in the manner of treating heart affections, as necessitated by the progress made during the past few years.

The work presupposes on the part of the reader a complete knowledge of the older material, since only casual reference is made to it here. All efforts to harmonize the older clinical observations with the pathologic anatomy have been dropped, very little attention being given to either. Instead, in this new work, the treatment is based upon the data afforded by the sphygmograph—as may be seen by the following chapter headings: "The Identification of Disorders of the Heart Beat", "Sinus Irregularities", "Heart-Block", "Premature Contractions on Extrasystoles", "Simple Paroxysmal Tachycardia", "Auricular Flutter", "Auricular Fibrillation", "Alternation of the Heart."

The book is profusely illustrated with tracings and diagrams, and it is written in that easy, lucid style possible only to a master of the subject. Much of the confusion regarding the application of digitalis is cleared up; its priceless value being demonstrated and the conditions in which it is perilous pointed out, in which latter respect, it would be edifying to compare this book with Huchard's "When and How to Give Digitalis". Frankly, we find much to commend in this little book and little, if anything, to find fault with.

PRICE: "DISEASES OF THE HEART"

Diseases of the Heart. Their Diagnosis, Prognosis and Treatment by Modern Methods. With a Chapter on the Electro-Cardiograph. By Frederick W. Price. London: Oxford University Press. 1918. Price $7.50.

F. W. Price's volume entitled "Diseases of the Heart" covers a much larger field than the preceding one. He first presents a chapter on the Anatomy and Physiology; then takes up the sphygmograph, and treats it with the importance it deserves. There is a chapter on x-Ray Examination; then follow others on topics similar to those of Lewis' book, until Chapter 18 is reached when the anatomic affections of the old classification are considered. Soldier's heart has a special chapter.

With the assistance of these two volumes, the clinician can bring his knowledge of the new work practically down to the minute; and, unless he has carefully kept up

with the new work being done in this line, he will be amazed to find how antiquated his previous knowledge has become. Price's work is completed by a double column index, covering thirty-six pages. It is a pleasure to the Reviewer to be able justly to approve so unsparingly of any work submitted to him.

FORD: "MILITARY MEDICAL ADMINISTRATION"

Details of Military Medical Administration. By Joseph H. Ford, M. D. Second revised edition. With 30 illustrations. Published with the approval of the Surgeon-General of the U. S. Army. Philadelphia: P. Blakiston's Son & Co. 1918. Price $5.00.

The second edition of this volume is published only four months after the first one had made its appearance—surely, an eloquent proof of its timeliness. Not only members of the Medical Service Corps will wish to study this volume carefully, but, for civilian physicians, likewise, it presents a wealth of useful information. That, aside from the interest naturally attaching to it, must prove of actual value. The fact, moreover, that this volume has received the unqualified approval of the Surgeon-General of the Army is a further factor in assuring its popularity.

COLLINS: "NEUROLOGICAL CLINICS"

Neurological Clinics: Exercises in the Diagnosis of Diseases of the Nervous System. Given at the Neurological Institute, New York, by the Staff of the First Division. Edited by Joseph Collins, M. D. New York: Paul B. Hoeber. 1918. Price $3.00.

In this volume, Joseph Collins presents 41 papers contributed by the staff of the Neurological Institute of New York. These papers cover a large range, and, taking them collectively, they show considerable merit. Especially commendable we find the articles upon brain tumor, cerebral syphilis, and the affections of the spinal cord. There are three plates in black and white, all good enough to make us regret that there are not more. Volumes such as this one are of very great value to the practitioner, in that they aid materially in bridging the gap between the college textbook and the practice of medicine as it comes to us.

MACKENZIE: "SYMPTOMS"

Symptoms and Their Interpretation. By James MacKenzie, M. D. Third Edition. New York: Paul B. Hoeber. 1918. Price $3.75.

If, at any time, the novel you are reading proves dull and uninteresting, lay it aside and take up MacKenzie's book on "Symptoms and Their Interpretation." You are no true physician if you do not begin to sit up and take notice in less than two minutes. Further, you must be an extraordinarily good physician if you do not derive a whole lot of useful information from its perusal. We rather imagine that this is one of the books with which you would not willingly part.

However, there is one point that we must make against the author, and that is where he speaks of the difficulty of diagnosing hyperalgesia. There is not anything difficult whatever about that problem. Just dig out of limbo your old forgotten faradic battery and set it a'going. Applying the soothing pole indifferently, turn on a current strong enough to cause decided muscular contractions, then, by applying the irritant pole successively to each muscle or the affected region, you can easily make an absolute diagnosis. More than this, you will be enabled to ascertain the true cause of the affection. When one group of muscles or even a single muscle proves to be painful when put into contraction, you can then investigate as to what peculiar circumstance induced strain of this muscle, with its consequent degeneration. It may be that my lady has paralyzed her intercostal muscles by long-continued application of the corset, and then we say she has pleurodynia. Or, the man may bend over his desk until the planes of abdominal muscle rebel. If now you will reverse the current, reducing it so that it no longer occasions pain, you will, by this gentle faradic massage, aided by the inunction of cod-liver-oil, arrest the degeneration and, in fact, restore the nutrition of the organ.

All of which does not interfere very much with our commendation of MacKenzie's book as one of exceeding value to the practitioner and more interesting to read than a novel by Henry James.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Answers to Queries

ANSWER TO QUERY 6395.—"Uterine Malposition." Referring to Question 6395, page 640, in August CLINICAL MEDICINE, it may not be out of place to say that many cases of uterine malposition, especially retroversions, result from the new mother lying in one position too long, especially flat on the back.

Every obstetrician should instruct his lying-in patients (unless there be special reason for not doing so) to change position quite often, at least after the first twenty-four hours after the accouchment, so that adhesions may not form. However, after she begins to get up and for at least one month thereafter, the mother each day should lie on her abdomen for a minute or two, in order that the heavy womb may fall forward, the intestines rise behind it, and then again assume any position that may be comfortable. It is in the period of subinvolution that the retroversions are caused; the heavy womb continues to rest on the rectum, the anterior ligaments remain long, and thus displacement will be caused; while, if the womb be inflamed, adhesions are liable to form.

St. Joseph, Mo. R. WILLMAN.

Queries

QUERY 6398.—"Eczema Seborrhoeicum?" G. H. B., New Mexico, forwards a specimen of urine from a patient who has small blotches on his face, which are covered with a scaly, dandruff-like substance. After shaving, they are very red and, "after washing in the morning, these blotches, which are on the sides of the cheek and chin, come out with this white scale—immediately—similar to dandruff, and cover most of the face when the beard grows." Under applications of cream, this disappears, but, the red blotches remain. After shaving, they become a deeper and shinier red.

Your patient probably is constipated or, at least, his daily evacuations are not sufficient. The first idea on hearing of this sort of facial blemish is, naturally, a suggestion of intestinal autointoxication, and this idea receives confirmation from the large amounts of indican and skatol that were found in the urine tested. For this reason, we urge a thorough "cleanup" with laxative salines and a subsequent course of the combined sulphocarbolates. Later, galactenzyme tablets will be useful. At the start, however, we suggest the addition of a prescription for calcium sulphide, to be given to saturation, or, one granule (gr. 1-6) every hour for two or three days, and then, two or three granules three times a day. If for some time the general health is below par, by all means, add the combined arsenates. Locally, you might try a simple ointment of flowers of sulphur, rubbed up in a little lanolin, which should be rubbed well into the skin after shaving.

Instruct your patient to have his razor-blade very sharp. Blades that "pull" are liable to irritate and produce all sorts of skin trouble.

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QUERY 6399.—"Circumcision of Females?" M. E. B., Michigan, finds that none of the several works on surgery, dis-

cases of women, et cetera, accessible to him, describe the operation of circumcision of females, and he asks us to say in what textbook the procedure is described.

Among others, the operation is described in Van Schack's "Emergency Surgery" and also in Ashton's "Gynecology." As a matter of fact, the procedure is very simple, consisting merely in the excision of the redundant prepuce and the approximation of the raw edges by means of sutures. Ashton illustrates each step of the operation.

A general anesthetic should be employed. The prepuce is seized, on each side of the glans, with tissue-forceps and divided with a pair of straight scissors along the middle of the dorsum of the clitoris. Each flap, or half of the divided prepuce, is then removed with scissors and the raw surfaces covered over by uniting the edges with interrupted catgut sutures (preferably size 0 or 00).

Before deciding to perform circumcision, examine the patient thoroughly, to see whether it is not possible to break down any adhesions that may exist and possibly cause more or less serious local or reflex symptoms.

Place the patient in a dorsal position and apply a 10-percent solution of cocaine or anesthaine, full strength, on a pledget of cotton, to the clitoris and upper portion of the nymphæ. After five minutes, grasp the clitoris between the thumb and index-finger of the left hand and pull the prepuce back as far as it will retract; at the same time, free the glans thoroughly by breaking up adhesions with a dry dissector or stout probe. Cleanse the parts thoroughly with a warm 1 : 2000 solution of mercuric chloride or of chlorazene, 1-percent. Then apply carbolized vaseline to the parts before allowing the prepuce to slide back over the glans. In order to prevent reformation of the adhesions, the latter procedure should be repeated every day until normal conditions have returned.

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QUERY 6400.—"Blood Pressure." G. M., South Dakota, asks: (1) "What instrument do you recommend to take the blood pressure? (2) What is considered normal blood pressure—systolic and diastolic?"

You probably will find the Tycos sphygmomanometer the most satisfactory instrument for ascertaining blood pressure. There is little question that, in general practice, this, the diaphragm-type of instrument, proves superior to the mercurial type.

As you will understand, properly to determine minimal, or diastolic, pressure, the operation of the instrument must be absolutely coincident with the cardiac impulse. Such result can be obtained only with a well-made diaphragm-type of instrument, for the reason that there is no lost motion. To prove this, place the stethoscope over the brachial artery and listen to the sound in it. You will observe that the oscillation of the hand on the dial is absolutely coincident with the sound itself.

In the mercurial type of instrument, the oscillation, if it occurs at all, follows so slowly that the next impulse has appeared before the oscillations have ceased, so that the real value of the oscillation is interfered with by the returning impulse. Moreover, the mercury column, as cared for by the general practitioner, can not be kept clean, and foul mercury increases the capillary error. Further, the changes in capillarity, since they destroy the original value of the scale (owing to oxidation of the mercury) and the inability of the mercury column to indicate quickly the arterial impulse, should be carefully thought of when considering the general use of such an instrument.

As you readily will understand, it is difficult to state the "average normal blood pressure," as this increases with age. In a long series of examinations, the average blood pressure found was 127.5; that for females at all ages 122 mm. By grouping patients from 15 to 30 years, the average was 122 mm.; the average high being 141 mm.; the average low, 103 mm. Those from 30 to 40 gave an average blood pressure of 127 mm., an average high of 143 and an average low of 107 mm. Those from 40 to 50 gave an average of 130 mm.; an average high of 136 and a low of 113. Those from 50 to 60 gave an average of 132, an average high of 149, and an average low of 115 mm.

There is a gradual rise in blood pressure as the years advance, and it can readily be seen that a man between 50 and 60 years of age giving a blood pressure of 145 or even 150 might be accepted as normal, while the same pressure in a man under 30 would call for further study and investigation.

The average blood pressure in all cases in

which the pulse is under 65 beats should be about 125 mm., while the average blood pressure in cases showing a pulse over 85 should be 130 mm.

In making a large number of examinations, it will be found that there are quite as large a number of healthy individuals with a pulse over 85 as there are with a pulse under 65.

Dr. J. W. Fisher, medical director of the Northwestern Mutual Life Insurance Company, in his monograph, "The Diagnostic Value of the Use of the Sphygmomanometer in Examinations for Life Insurance," says: "We have a record of 420 accepted cases under the age of 40 with a blood-pressure average of 125.20 mm.; 26 applicants under the age of 40 were rejected, whose blood pressure was 150 mm. or over."

This writer would be inclined to regard 130 to 135 mm. as a normal blood pressure in the average person between 35 and 50 years of age.

We strongly suggest that you obtain Cowing's "Blood Pressure," a remarkably informative booklet, and, if you desire to make a more exhaustive study of the subject, read Janeway's "A Clinical Study of Blood Pressure" (Appleton & Co., New York), Wilson's "Medical Diagnosis" (J. B. Lippincott & Co., Philadelphia) or Mackenzie's "Diseases of the Heart" (Oxford University Press, New York).

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QUERY 6401.—"Hirsutis." O. R. P. Iowa, asks for the best treatment for hirsutis. He has under his care a woman that is much troubled in this way and he does not want to experiment with her. He is afraid to use barium sulphide, saying that the hair will come out coarser after its use.

We regret to state that we know of no better local remedy for hirsuties than barium sulphide. A very good combination is, this: barium sulphide, 5 parts; slaked lime, 6 parts; wheat-flour, 10 parts. This has been used, with success, by hundreds of physicians in thousands of cases. However, as you will observe, the hair returns after application of barium sulphide, although, as a rule, in less vigorous form. In the majority of cases, there ultimately remains nothing but an inoffensive (or comparatively inoffensive) lanugo.

In cases of moderate acquired facial growth, full and permanent removal can be effected only by means of electrolysis. Each hair, of course, must be treated individually, and it is practicable only where the hairs are coarse and not too numerous. In the hands of a good operator, few failures occur. Of course, the surface can always be gone over the second time and any missed hairs destroyed. From 35 to 50 hairs can be comfortably removed in an hour.

You will find that nearly all authorities consider barium sulphide (freshly made, if possible) the most satisfactory depilatory. Duehring recommends 2 to 4 drams of barium sulphide, with enough zinc oxide and starch to make an ounce. Personally, we have had better results with the combination of barium sulphide and quick lime.

In all cases, more or less redness follows the application, and it is desirable to allow the paste to remain on for a short time only, usually but a few minutes, so as to prevent undue irritation. Ordinarily, a feeling of warmth or slight burning is an indication that the paste has been on long enough.

Boettger's paste, as advocated by Kaposi, made by passing hydrogen sulphide into hydrated lime (made into a paste at the time of application by the addition of water), also may be recommended.

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QUERY 6402.—"Nervous Breakdown"? R. K. M., Oregon, asks us to suggest supportive treatment for the patient whose case is described herewith: Female, age sixty-five, married, mother of several children. Weight, 130 pounds. "The woman suffers from nervous collapse; for four months she has been bedfast. She complains of a peculiar itching in the palm of each hand, also on the lower extremities, while dark-red spots are present under the cuticle in the palmar surface of the hands, also on the dorsal aspect of hands and wrists and feet. There is an elevation of temperature to 101 to 102 degrees each afternoon. Her urine, of 1010 specific gravity, straw-colored, slightly acid, and contains no albumin, no sugar, and no phosphates; but, some urates. The following treatment has been prescribed: Free elimination by the continuous use of calomel, podophyllin, and bilein (also phenolphthalein tablets, gr. 1 or gr. 2, as required), sodium phosphate, castor-oil, emetin, in 1/6 grain doses, several daily

doses of each to effect. It would seem that this treatment, in addition to daily warm-water enemas containing the combined phenol-sulphonate tablets (4 tablets in ½ gallon), should favor free elimination of waste material. The patient has been on a light diet for several weeks, mostly cereals, while milk is excluded.

"The supportive treatment is: the arsenates of iron, quinine, and strychnine, with nuclein; also elixir of peptonate of iron and manganese, after meal-hours. Protonuclein, for a change, the past three days, in 12-grain doses, every three hours, always before meal-hours.

"There was severe suffering from muscle-pain early in the disease, but, the past week is not so severe. The petechiæ, possibly blebs or peculiar eruptions (whatever it is) do not become purulent, as there is no tendency to a break of the eruption on the surface. The patient seems to be improving in some ways, being not nearly so nervous, of clearer complexion, and with a better condition of the digestive system."

We are inclined to believe that you have to deal with a case of purpura, though it is possible, considering the absence of albumin in the urine and the gastric disorder, that it is erythema multiforme.

In purpura rheumatica, also in some other forms of the disease, there is always a slight elevation of temperature, and in purpura senilis such elevation may occur and the purpuric spots appear on the lower extremities (usually about the ankles) and on the hands and forearms.

Your general line of treatment could hardly be improved upon, but, we should add macrotin and a combination laxative containing sulphur, strychnine, podophyllin, and berberine hydrochloride.

We should be inclined to omit the emetin, temporarily, at least, but, would continue the enemas, substituting physiologic salt solution for the sulphocarbolates. Instead of castor-oil, give reasonable doses of liquid paraffin each night. Calomel and podophyllin might be given, with advantage, say, once a week. Later, the patient well might receive Bulgaric-bacillus culture, either in the form of tablets, two or three, three times daily, or, better still, in liquid form, night and morning. We should give this patient all the vegetables (especially carrots and spinach) and ripe fruits she can take care of. It hardly is desirable to limit her to a starchy diet.

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QUERY 6403.—"Formication". T. H. G., Mississippi, has a patient who complains of a sensation like that of ants crawling on his skin. There is no flushing, no swelling, no redness, not a symptom indicating any congestion or inflammation, no periodicity. Sometimes a little lump will form under the skin. There never is any fever. The patient is continuously picking at his eyes, saying there are bugs in them. He thinks he is bewitched.

We regret to state that it is impossible, without a clearer idea of basal pathological conditions, to venture an opinion as to the cause of the formication complained of by this patient. In the first place, you do not give us any idea of the individual's age, nor do you state whether there is any evidence of autotoxemia. It is probable that the symptoms you describe have their origin in autotoxemia of intestinal origin.

It would be well to send a specimen of urine (4 ounces taken from the mixed 24-hour output, stating the total quantity voided) to a competent pathologist, for examination. At the same time, ascertain the pulse rate, blood pressure, presence or absence of hepatic congestion, or if there is any spinal tenderness. What is the condition of his mentality generally?

Suppose you try 1 grain of blue mass and soda half-hourly, four to six doses at night, and a full dose of magnesium sulphate the next morning; repeating this medication every third night for two weeks. At the same time, order, every other night on retiring, an epsom-salt sponge-bath (1 ounce to the quart of water). Three times daily, after meals, give arsenous sulphide, 1-64 grain, and some such combination as strychnine, quassin, papain, and juglandin before eating. At the same time, inform the patient that after the end of the first week the symptoms will have almost entirely disappeared and will be gone absolutely in another five or six days. The eyes well might be bathed with a solution of boric acid.